

INTELLIGENT COMPUTING

CHIP

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at the heart of technology

3G: WHY EVERYONE'S ANGRY
 WILL TABLETS REALLY KILL THE PC?
 COMMON TECH MYTHS DEBUNKED
 FUN DIGITAL CAMERA TRICKS
 HACK YOUR ANDROID BOOT SCREEN



Should You Bother?

REVIEWED



BlackBerry Playbook

HTC Sensation

Nokia E6



Apple iMac

Canon PowerShot SX230 IS

Asus Matrix GTX 580 Platinum

Asus O!Play Gallery

Mac OS X Lion



COMPARISON TESTS

**INCREDIBLE VALUE FOR RS 4,995!**

11 digital cameras from 5 top brands

**THE BEST Z68 MOTHERBOARD**

12 options for 2nd gen Intel Core CPUs

Knee-jerk reaction

Even as we continue to increase our reliance on the Internet and put more parts of our lives online, small incidents serve to illustrate how the delicate balance between technology, governance, and the rights of the end user really is. The things we take for granted can be swept away by any time, not just because of a simple technical failure, but because of the whims of those in power.

One evening in late July, a number of Indian Web users discovered that they'd been locked out of file sharing sites such as Rapidshare and Megaupload. A simple error message informed them that their ISPs had been forced by the Department of Telecom to block these sites. Speculation was rampant across Twitter and various websites, till it was discovered that a Delhi High Court passed an order allowing a film distributor to prevent piracy of an unreleased movie, which the said company had used to scare ISPs into blocking these sites. However, no one managed to produce the actual court order, or any part of it specifically authorizing such action. Users began reporting that different ISPs were blocking different sets sites, and some weren't blocking any at all. There was no public notice, no timeframe, and in fact no sense behind these blocks—it seemed that the ISPs were merely following directions, scared they'd be sued for non compliance, when in fact they have no way to specifically prevent individual files from being pirated and should have no responsibility for doing so either.

And so, a random selection of perfectly legitimate services was blocked. Thousands of people were denied service for undoubtedly valid purposes, while hundreds of other online storage sites were unaffected. There was also no effect on P2P networks, Torrent traffic, or any of the much more likely means of piracy that anyone would be likely to use. Proxy sites were unaffected, and many reported simple URL manipulations worked—evidence of the ISPs' ineptitude or hurry. Service was restored within days, again with no clear reason indicated. We might all laugh off the incident as a minor inconvenience, but it's a dangerous precedent. Anyone with a vested interest—whether corporate, moral or political—could do it properly next time, ensuring that more services are blocked, more tightly, and indefinitely. And what if our courts decide that ISPs are in place to “protect Indian culture from Western influence”? They wouldn't be able to live up to terms like those without sweeping blocks on all kinds of services and functions.

It's happened before and continues to happen around the world: there have been blackouts due to political unrest in Africa and Europe, debates about traffic shaping and net neutrality in the USA, a proposed national pornography filter in Australia, pressure against Wikileaks in the name of preserving various nations' security, the MPAA and RIAAs' barrages of multi-million-dollar lawsuits, and of course pretty much anything the powers that be in China disapprove of. In India, all it took was a court siding with a corporate interest. It's a slippery slope, and without clear government directions as to what courts, corporations and ISPs are and aren't allowed to do, we'll be at the mercy of their whims.

Jamshed Avari
editor@chip.in



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CHIP INTERNATIONAL

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CHIP is also published in the following countries

China, Czech Republic, Germany, Greece, Hungary,
Indonesia, Italy, Malaysia, Netherlands, Poland,
Romania, Russia, Singapore, Thailand, Turkey, Ukraine

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Intelligent Computing CHIP is printed by Mohan Gajria
and published by Lakshmi Narasimhan on behalf
of Infomedia 18 Ltd. and printed at Plot No. 3, Sector 7,
Off. Sion-Panvel Road, Nerul, Navi Mumbai - 400 706 and
published at 'A' Wing, Ruby House, 2nd Floor, J.K. Sawant
Marg, Dadar (W), Mumbai - 400 028. INDIA

EDITOR: Lakshmi Narasimhan

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INTELLIGENT COMPUTING
CHIP**INBOX**Next month's Star Letter wins
accessories set (worth Rs 5,000)**STAR
LETTER**This month's winner
gets a cool
accessories set**Too much Facebook?****Hi Priyanka,**

I have been a reader of your magazine for a long time, and also your articles. I must say they are quite interesting. Your recent story about Facebook and how it is turning into an addiction was remarkable, and this is the reality about how children have taken Facebook into their lives. I completely agree with you that in addition to kids, adults have also become addicted to Facebook.

Having the largest number of friends and likes on their status is more important than scoring marks or probably even more important than scoring goals in football and runs in cricket. These days people have forgotten that Facebook is a social networking site and have made it a personal networking site. Your article has highlighted the hazards of too much Facebook. Reading your article made me remember that these people have stopped believing in the saying "nakli kar aur dariya mein daal", instead it is the reverse: "kuch bhi kar but FB pe daal".

Your article has pointed out that people have taken Facebook more seriously than real life. They socialize with colleagues who sit next to them and with parents or sibling only through Facebook and not at the dinner/lunch table. I was really impressed by your article and feel it should be posted on Facebook itself so that kids and many adult users realize how to prioritize their real life & social life.

Regards,

- NILASHREE MALI

Hi Nilashree,

Thank you for your letter. Yes, Facebook has become an obsession. While social networking in itself is not bad what has happened is that people lack balance. They are giving undue importance to their virtual personas without realizing that they are inconsequential as only this will not make them a success in real life. When people realize this, it will help them get their priorities right and keep their online activities in check.

Regards,

- PRIYANKA TILVE



— Sachin Pandit

3G vs Customers**Dear Sir,**

When 3G services were first launched in India, I was eager to get a taste of high download and upload speeds as promised. So, I purchased a BSNL 3G 3.6 Mbps dongle. The tariff plan was also pretty simple, Rs 4200 for 6 months of unlimited usage. As the service commenced, I lost track of how 6 months went by. In the 7th month I received a bill which to my utter astonishment stated an amount payable up to Rs

24,000! A call came from the BSNL office a few days later as the reminder of the same and saying that after 6 months my tariff plan was automatically changed (without any notice) and I was charged Rs 2000 per GB.

My point is, when I purchased a plan for 6 months, why wasn't the service discontinued after 6 months? And even if not discontinued then why wasn't I notified of such automatic plan changes? Many of my friends and

relatives also have the same complaint. Deceiving the customers in such a way will only result in negative publicity which is bad for their image. I don't know about others but at least I will think twice before purchasing any services from them.

AKSHAY KASHIKAR

Hi Akshay,

It's surprising to hear about the trouble you have faced with your service provider. Luckily, you can

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editor@chip.in
with "LETTERS" in
the subject line

SMS US

Since we like knowing what's on your mind and what you think about our magazine, we bring you another way to get in touch. Do you have something to say about a test or review? Liked a feature story? Was the workshop useful? SMS us your feedback!

For general comments, create the following message:
ICCO <Your comments here>
 Example: ICCO The cover story was very useful

To rate a story, product review, etc look out for the story tag at the base of each article and type:
ICCO <Story tag> <Rating>
 Example: ICCO PWS 5

The "Story tag" is mentioned at the base of every story in the magazine and the "Rating" is on a scale of 1 to 5.

Finally, send your messages to **51818**. Cheers!

Please keep comments to 160 characters per message! Include your email address to help us reply or check out the SMS Feedback thread at www.chip.in/forums

take up the matter with their customer care, or failing that, with the nodal officer in charge of customer complaint redressal. It might be possible that there was some fine print in the contract you signed which allowed them to switch over your plan, although they would still be obliged to inform you well before the expiry of your subscription and also before moving you to the new plan. If the service provider doesn't reverse the charges (or at least settle for a huge discount to compensate you), you still have the option of approaching the consumer courts. Do let us know how they respond to your complaints. Meanwhile, all other customers are advised to read their service agreements carefully, and be aware of such market practices.

- TEAM CHIP

Strange offers

Dear CHIP,

One day I received a mail in which a company asked me to join an Internet job and take online surveys. They also wanted me to pay some amount of money to join the company. I searched the Internet not knowing whether the company was valid or not, but I found nothing about it. If I join the company, pay the money and start work with them, what is the surety that they will pay for my work? It is possible that they will not pay me any money and I will only get an electricity bill, Internet bill and lose my precious time.

The Government should take a hard decision on these phishing companies because they make fools of us and take our precious money as well as waste our precious time and health. Government bodies should publish lists of valid and fake companies so that they can't make fools of anyone again.

**- AJAY KAARNATAK,
DEHRADUN, UTTARAKHAND**

Hi Ajay,

In cases like this, it's best to trust your instincts. There's no reason any company should ask you to send them money, no matter what they



promote. In all likelihood, it's a kind of pyramid scheme designed to make you feel like you're earning some money, when you're actually only making money for someone else. Did they ask you to further recruit other people?

If such a company is actually registered in India, it might be possible for the authorities to take action against them for false advertising or cheating. However chances are they just popped up overnight and will disappear long before anyone can find them. Awareness and foresight saved you this time, I hope your experience serves to help others.

- TEAM CHIP

What it takes

Hello editor,

I have started reading this magazine regularly for the last 3-4 months and I have found it really interesting and helpful for personal computing! I would like to appreciate the work of the team, as they make the magazine really appealing. The Insider supplement and DVD provided with each edition are really good! My question is what if anybody wants to get into the editorial field for your magazine? Is there any particular degree or qualification you look for, or is it just a keen interest in the latest technology that you want in the individual? I am a final year student of BTech (IT) and am looking for a career which will help me maintain my interest in writing along with utilizing the technical knowledge I

have gained. A job with a technical magazine would be really challenging, and this motivates me to go for it!

Thanks,

- RAFIA SABIH

Dear Rafia,

Thanks for your mail. To answer your question, we do not insist on any particular specialization or educational qualification. The most important things are knowledge of the technology space, and excellent written and verbal communication skills. You also have to be passionate about the industry and the kind of products we work with, enough to understand and appreciate the new developments that constantly come up. Our team includes people from diverse backgrounds--engineering, management, journalism, mass media, etc. If you really want to get into this field, keep yourself well informed about the industry, familiarize yourself with the most important companies and products, and practice writing on a regular basis!

- TEAM CHIP

Bada too

Dear CHIP,

I have been reading this magazine since August 2008 and I can safely say that your magazine is really the best among other tech magazines in India thanks to your simple language, but equally wonderful content! But I have a request. You had a cover story on smartphone OSes and applications. You covered all major OSes, but not Samsung's Bada OS. I request you to please cover this OS as it is used by a good number of people in India. If not, then please discuss some related websites in your next issue.

Thanking you,

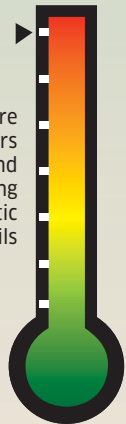
- VAIBHAV DHILPE

CORRIGENDUM

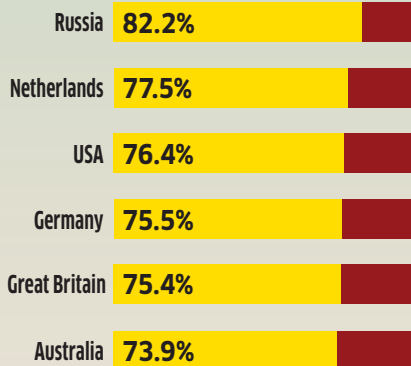
The warranty period of the Silicon Power Stream S10, the Best Performance award winner in last month's external hard drive comparison, was incorrectly published as 1 year. The warranty period is in fact 3 years. The error is regretted.

DANGER FORECAST

Hackers are attacking users of Gmail and Facebook using ultra realistic phishing e-mails



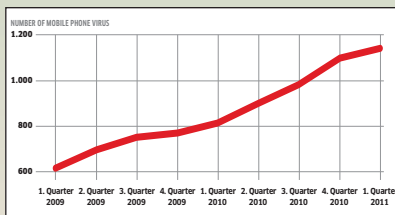
MEANINGLESS EMAIL



Russians have to deal with the most spam; over 80 percent of their emails are unwanted advertising.

Source: McAfee

SMARTPHONES: MOBILE



According to antivirus vendor McAfee, the amount of malware for mobile devices has nearly doubled in the past two years.

\$50

What hackers are charging for an outsourced 24-hour denial of service attack

Source: McAfee

IN THE NEWS...

COMPILED BY JAMSHED AVARI

PRIVACY

UK phone hacking scandal outrage results in parliamentary enquiry, threatens Murdoch empire

News GOT A STORY? EMAIL: TALKBACK@THE-SUN.CO.UK

Media moguls body discovered

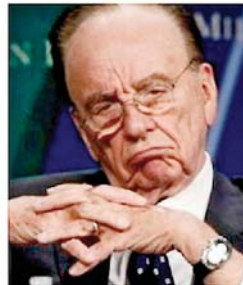
By STAFF REPORTER
Published: Today

Rupert Murdoch, the controversial media mogul, has reportedly been found dead in his garden, police announce.

Murdoch, aged 80, has said to have ingested a large quantity of palladium before stumbling into his famous topiary garden late last night, passing out in the early hours of the morning.

"We found the chemicals sitting beside a kitchen table,"

Media Mogul ... Rupert Murdoch



Even weeks after a scandal broke out over the tapping of civilian and government phone lines by British tabloid News of the World, fresh allegations are cropping up and public inquiries continue. The tabloid, part of Rupert Murdoch's global News Corp empire, was shut down with less than a week's notice after 168 years of publication, in an effort to distance News Corp from the scandal, although the parent company still had to withdraw from a highly public and potentially lucrative bid to take over the British satellite broadcaster BskyB, in which it currently holds a stake.

Current and former NOTW staff, including editors Rebekah Brooks and Andy Coulson have been held for questioning by police,

and Murdoch himself has answered to a parliamentary committee, during which he was attacked by an activist with a plate of shaving foam.

The victims of the alleged phone tapping incidents include celebrities, businessmen and their assistants, athletes and sports managers, lawyers, members of the royal family, relatives of British soldiers and victims of the 7/7 terrorist attacks, and even a murdered schoolgirl, a particularly gruesome case in which reporters tampered with her voicemail, impeding a police investigation.

Even hacker group LulzSec popped out of retirement briefly to hack the Sun newspaper with a fake report of Murdoch's suicide.

LEGAL ISSUES

"Locker sites" are not copyright violators: US court

A federal court in the United States has ruled that "locker sites", on which anyone can upload a file and share its link with others, are not directly responsible for copyright infringement. However, they can be tried for inducing and profiting from copyright infringing activities.

The case in question was filed against Hotfile.com by the MPAA, an association of Hollywood rightsholders that has filed hundreds of lawsuits against file sharers so far. Hotfile.com claims it has no knowledge of or liability over the content its users



upload, however the site does incentivize the uploading of files that prove to be popular. The lawsuit also alleges that Hotfile.com relies on third-party pirate search sites to allow users to find specific movies on it.

SECURITY

NEW SECURITY RISKS DETECTED AND PATCHED



VLC MEDIA PLAYER

Due to a vulnerability in the handling of playlists, attackers can inject malicious code onto a computer. Playlists in XSPF format are affected.

SOLUTION: The manufacturer has made available the updated version 1.1.10, in which this error is corrected. The link is available on VLC's website.

ADOBE FLASH

Hackers are actively exploiting a security hole in Flash player that allows them to read data from Web pages which a user has logged on to, such as email accounts.

SOLUTION: Adobe has closed the unforeseen cross-site scripting hole, and is offering an update to Flash player 10.3.181.22 for download.

FACEBOOK

An Android app named FaceNiff allows attackers to penetrate others' Facebook accounts if they are active on the same Wi-Fi network.

SOLUTION: In order to protect themselves against such an attack, users should consider always using the SSL option when accessing Facebook via public networks. The change can be made in the settings menu of Facebook.

INTERNET EXPLORER

Researchers found an IE bug that let them read cookies from remote PCs. They can thus log in to some protected sites without a password. The victim is sent a puzzle game in which he has to drag and drop objects, which actually secretly enables the exploit.

SOLUTION: Microsoft has already fixed this hole thanks to the researchers.

SECURITY

AntiSec rises from LulzSec's ashes, continues carrying out attacks

The group of hackers calling themselves LulzSec might have retired suddenly and surprised the world, but a new group called AntiSec has risen in its place. AntiSec has already taken credit for a number of brazen data leaks, and has successfully targeted the US Military and even the FBI. The attacks usually involve accessing networks belonging to the target or contractors hired by the target, using simple scripting attacks that reveal passwords to administrator accounts. Common social engineering also results in the discovery of other accounts for which users use the same passwords. Compromised information is said to include military plans, schematics, and private email addresses.

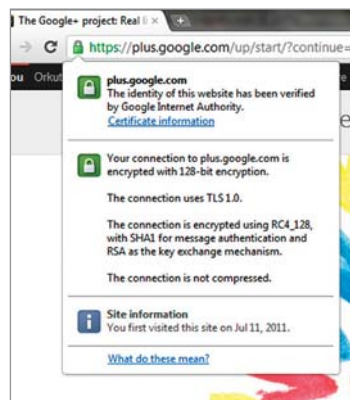
In an apparently unrelated attack, the Pentagon has admitted that over 24,000 files were accessed earlier this year, though it isn't specifying what information was compromised, if any. A foreign terrorist group is suspected.



SECURITY

People knowingly continue with unsafe transactions: survey

A recent Symantec survey has thrown up the shocking finding that people often continue with an online transaction that they might suspect to be fraudulent. While 55 percent of respondents recognized green address bar highlighting as an indication of security, 80 percent knew about browsers using padlock icons to signify secure sites, and 81 percent knew to look for "HTTPS" in the address bar, only 55 percent said they would not proceed with a transaction if these indications were missing. Further, 15 percent of respondents who were aware of HTTPS login security offered by websites consciously didn't use it. More telling, 97 percent of respondents thought they were somewhat or extremely knowledgeable about web security, and 82 percent were extremely concerned about the need to keep their data and identities confidential.



SECURITY

FB scammers use Finnish loophole



There's a new twist to the recent spate of scam links that look like videos with shocking titles. Sophos reports that scammers are using pages translated into Finnish in order to trick people into authorizing rogue applications to access their personal data. The button 'Jaa', which many assume translates to "yes", actually means "share". This posts the scam link to the victim's friends' walls. There is of course no such video.

SECURITY

Google warns users of malware



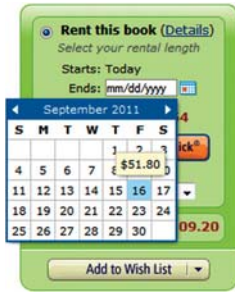
Google has begun warning users they might be infected with malware, according to a company blog post. The search giant started detecting connections from infected machines running through proxy servers, indicating that all Web traffic on those machines might be being intercepted. The particular strain of malware hasn't been named by Google, but it affects only Windows-based computers. Anyone who sees this alert is advised to update their security software.

CULTURE

Amazon announces cheap e-textbook rentals

Amazon is all set to shake up the publishing industry by allowing rentals of Kindle textbooks, which could save students up to 80 percent of their cost each year. College and university textbooks cost hundreds of dollars each and are used only for a few months, giving rise to a huge secondhand market.

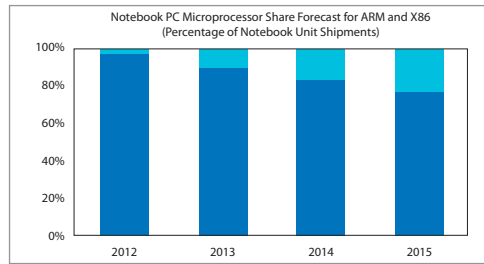
Now, the company will allow rentals for as little time as a day, after an initial 30-day period. The books can be accessed from any Kindle device, including PCs, Macs, iPads and smartphones. Notes, highlights and annotations will be stored in Amazon's Whispersync network and will also be saved beyond the expiration of the rental period, so a book can be "reactivated" anytime for a small fee, with all notes intact. "Tens of thousands" of Kindle textbooks are already available.



HARDWARE

25% of all notebooks to have ARM CPUs by 2015?

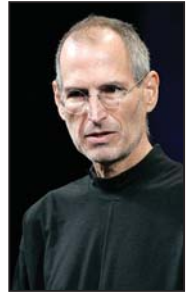
ISuppli, a leading market research company, has indicated that a whopping 22.9 percent of all shipping notebooks could use ARM processors by the year 2015, up from a projected 3 percent in 2012. The PC ecosystem, dominated so far by X86 architecture chips from Intel and AMD, could be in for a significant reinvention. The unprecedented shift is credited largely to the impending launch of Microsoft's next version of Windows, which will bring a familiar, mainstream PC experience to ARM-powered devices, which will offer consumers better battery life and more portability. Software vendors though will have to offer ARM-compatible versions of their products.



BUSINESS

Apple searching for next Jobs?

Rumors are spreading of Apple board members discussing plans to appoint a new CEO, should Steve Jobs' health deteriorate further and require him to leave the company altogether. Jobs, credited with saving the failing company and turning it into one of the world's most profitable and valuable names, has been on an indefinite leave of absence since January and is not involved in day-to-day operations. Apple has not disclosed any plans, despite calls from shareholders.



LEGAL ISSUES

Error invalidates US Green Cards

The US Department of State has invalidated the results of a lottery designed to pick applicants to receive Green Cards. Due to a programming error, the system picked only entries submitted in a two-day window rather than the entire eligibility period. A district court ruled that this did not qualify as a "random selection". The dictionary definition of the word "random" as "without definite aim, direction, rule or method" wasn't enough to cover the technical process of ensuring that each of the millions of applicants would have a fair chance of ranking highly in a random order, as understood for computer science and statistical probability purposes.

HARDWARE

After CPUs and RAM, HDD OCing

An Australian university has created a unique overclocking challenge—it is offering \$10,000 to anyone who can overclock a standard mechanical hard drive such that read speeds are raised to the level where a 500 GB drive which would ordinarily take two hours to read completely, can be read in less than an hour.

The announcement by Edith Cowan University is aimed at spurring research that will make data forensics in the age of multi-terabyte drives much faster. The contest specifies a particular 500 GB WD model, and allows any kind of modding, including the use of external cradles—but the method must be reproducible.

WEB

Google shuts its lab experiments



Well known over the years for its culture of allowing employees to spend working hours on projects of personal interest, Google has now decided to focus its attentions, and is therefore closing its experimental "Labs" features. The Labs initiative was responsible for the birth of Google Maps, Google Suggest, Google Goggles, and several others. Existing projects will either graduate or be discontinued. However, Labs features within products such as Gmail and YouTube will continue to function.

BUSINESS

Nokia bleeds 2Q marketshare

Amidst news of record-breaking second-quarter profits from Apple, Intel and Microsoft amongst others, Nokia's figures were shocking and dismal. Smartphone sales were 34 percent lower than last year, at only 16.7 million units. By contrast, Apple sold over 300,000 iPhones per day in the same quarter, and Android activations crossed 550,000 per day. Sales in India and China, Nokia's strongholds, also plummeted. The situation is not expected to get better this year, with fresh Windows 7 phones still months away.



SPACE

The end of the shuttle

The safe and uneventful landing of NASA's Atlantis orbiter in late July marked the end of the Space Shuttle Program, consigning one of mankind's most inspiring and iconic creations to history. Mission STS-135 delivered components and supply stocks to the International Space Station, and conducted a proof-of-concept attempt to refuel a satellite in orbit. The four-member crew also carried an iPhone and Nexus S, which have been left on the Space Station to help with experiments. Since 1981, 355 individual astronauts have logged 198,728.25 hours of spaceflight time aboard shuttles over 1,310 days, 20,830 orbits, and 36 Space Station dockings. Atlantis will be put on display at the Kennedy Space Center Visitor Complex.



HARDWARE

RIP Macbook

Apple was widely expected to release new hardware alongside OS X Lion in July, but the company had a surprise in store for shoppers—the base model Macbook, its beloved white plastic model, has been quietly discontinued. The Macbook (and the iBook before it) was a top seller for over a decade, because of its low price and cute design. Over the past two years, however, Apple hadn't upgraded it beyond Core 2 Duo CPUs, which made the machine worth a lot less than the 13-inch Macbook Pro, just \$200 more expensive. In 2010, a new 11-inch MacBook Air at the same \$999 price point offered users the choice between a thin-and-light machine, and a traditional laptop with a hard disk and DVD drive. Now, there seems to be no room left for the older model. The new, more powerful 11-inch Air still might not be a suitable substitute for everyone, but that's never stopped Apple from pushing the market where they want it to go. The company has, in the past, replaced the wildly successful iPod mini with lower-capacity iPod nanos, discontinued the Xserve, and reduced functionality in Final Cut Pro to attract more mainstream users.



MacBook Air
From \$999



MacBook Pro
From \$1199



Mac mini
From \$599



iMac
From \$1199



Mac Pro
From \$2499



SOCIETY

US to ditch landlines soon

The United States might discontinue its Public Switched Telephone Network (PSTN) by 2018, when only 6 percent of the country's population will continue to be served by it. The US Federal Communications Commission is in the process of deciding whether to set a definite date for the shutdown, rather than paying for its upkeep indefinitely. With people switching to cellular and VoIP networks as their primary phone service, the

need for an expensive infrastructure supported by government funds has been reducing. Obvious concerns include reaching people in remote areas, where landline phones are the only currently viable method of long-distance communication, as well as elderly citizens who might become unable to contact emergency services.

SOFTWARE

Is Ubuntu losing its edge?

Ubuntu, poster child of the Windows-switching brigade, seems to be losing its spot at the top of the Linux distribution heap. The easy-to-use distro has been a favorite amongst casual users and Linux advocates alike, primarily because of how easy it used to be to try it out and get used to it. Recently though, longtime fans have been deeply divided because of the switch to Unity, a new visual interface that breaks away from several common conventions and in fact trades



Linux's trademark flexibility for flashy graphics, which many in fact find distracting.

The minimalistic Unity launched with Ubuntu's Netbook Edition, and was designed for smaller screens and less capable machines. Users who chose Linux in order to tinker and experiment now find newcomer Mint and even the classic Fedora distributions more to their liking, according to the latest rankings at DistroWatch.com. Things might even worsen, as an option to revert to GNOME will be removed from the next release, 11.10.

BUZZ LIST

.....COMPILED BY JAMSHED AVARI.....

The simple lowdown on
what everyone's talking
about this month

NEW PRODUCTS LAUNCHED

COMPILED BY JAMSHED AVARI

LENOVO

Slim all-in-one PC

Lenovo India has announced the IdeaCentre A320, an ultra light and super slim All in One PC. With innovative features to suit consumers' dynamic lifestyles, this fully loaded PC is an iconic style symbol and can be used without any hassle. The Lenovo IdeaCentre A320 is packed with an array of features, is highly energy efficient and offers great value to consumers. Equipped with an ultra slim double shell design and a wide 21.5-inch LED screen, the stylish Lenovo IdeaCentre A320 is powered by 2nd Generation Intel Core i3/i5 processors, Intel Turbo Boost Technology 2.0 which provides an effective computing experience with up to 8GB DDR3 memory, and a 750 GB hard disk. It has USB3.0, USB2.0, 7-in-1 card reader, Integrated Bluetooth, high-speed 802.11n Wi-Fi, SRS Premium Surround sound enabled integrated speakers and External USB DVDRW for unlimited fun & entertainment.

PRICE: Rs 50,990

WEBSITE: www.lenovo.com/ideas

EPSON

Innovative inkjet printer



Epson has announced its most revolutionary printing product, the world's first genuine branded ink tank system

printer, the Epson L100. Created especially for India and key Southeast Asian countries, the L100 features Epson Original Ink Tanks that help users save on printing costs. Consumers are concerned about the cost of ink cartridges, leading to a market for non-genuine cartridges, including refills and fakes. To address the concerns of the cost conscious Indian consumer, Epson has introduced this new printer. It comes with a starting set of one black 70ml ink bottle that can print 4000 black pages and three 70ml color ink cartridges that can print 6500 color pages. With each set of one black and three color inks, the printers offer an extremely low cost per page of only 0.10 Paise per black page and 0.20 Paise per color page.

PRICE: Rs 8,999

WEBSITE: global.epson.com

ZEN MOBILE

Affordable feature phone

Zen Mobile has launched its latest M-72 with dual SIM and 2.4-inch color screen with an extra long battery which ensures a long 40 day battery standby. The Zen M-72 will stir the feature phone segment in India. Seated in the affordable category, M-72 has a slick outer display in bright red and soothing white colour which makes it catchy. MP3/MP4 and Bluetooth bring in the entertainment value at the most affordable price which no other mobile company provides. The Zen M72 is a fully loaded phone with all the latest multimedia features. Its 1.3-megapixel camera, video capture and Bluetooth sharing makes M72 most demanded, considering its affordable price. The phone is also packed with FM Radio &



MP3 player which provides a new listening experience through its stereo headset and loudspeaker.

PRICE: Rs 1,749

WEBSITE: NA

MAXX

Long-lasting phone

MAXX Mobiles has announced the MAXX SUPER MX424, an addition to the Big Battery series, designed to deliver extended battery life at affordable prices, allowing consumers to enjoy the benefits of extended talk-time and standby time. The power packed MAXX SUPER bar phone has 2200 mAh battery that offers up to 11-17 hours of talk-time and up to 460-1150 hours of standby time. The 1.3-megapixel MAXX Mobile phone with LED flash is integrated with multiple features like dual SIM, wire-free FM, sound recorder, MP3/AAC/WAV audio player, video recorder, 3GPP/AVI/MP4 video formats. This 2.4-inch TFT screen handset comes with dedicated key for audio player and camera.

PRICE: Rs 2,727

WEBSITE: NA

MOTOROLA

Smart sleek tablet

Motorola has announced the availability of the XOOM Wi-Fi and 3G variant tablets in India. Motorola XOOM is the world's first device powered by Android™ 3.0



The products and services listed here have not been reviewed by IC-CHIP. These are not endorsements or recommendations. All prices, specifications and claims are as stated by the respective manufacturers and publicists.

(Honeycomb). The XOOM features a 1GHz dual-core processor and 1 GB of RAM, front-facing and rear-facing cameras, true multi-tasking functionality, and the latest Google Mobile services on a 10.1-inch widescreen HD display. The tablet showcases the Honeycomb user experience including an interactive, customizable homescreen with moveable widgets, notifications and tabbed browsing. Support for HDMI enables viewing of videos and movies on larger screens, such as HD televisions. A 5 megapixel rear-facing camera with flash captures HD video, and a 2 MP front-facing camera enables clear video chats. The latest Google Mobile services include Google Maps and access to over 200,000 apps from Android Market.

PRICE: Wi-Fi: Rs 32,990 (starting); 3G: Rs 39,990 (starting)
WEBSITE: Motorola.com/mobility

VIOLIGHT New Cellphone Sanitizer



Bling Accessories, which took over India with unique Scratchgard screen protectors, has come up with another innovation, the Violight UV Sanitizer for your cell phones.

Violight is a very well known US brand of UV sanitizers for toothbrushes and other gadgets, and the Cell Phone UV sanitizer is the first to be marketed in India. The product is sleek, smart and can effectively sanitize your cell phone in just 3 minutes for 99 percent of germs including deadly bacteria like the streps, typhoid, e-coli and also H1N1 viruses. The USP of the product is that it is portable, handy and can be used for a

variety of products like headphones, ear-buds, Bluetooth adapters and PDAs apart from cellphones.

PRICE: Rs 3,500
WEBSITE: www.violight.com

ANTEC Value Power Supplies



Antec has released new additions to the Basiq power supply series: VP350P, VP450P and VP550P. The entry-level solution will appeal to users with its reliable dual rail output system and best-in-class design. The VP350P, VP450P and VP550P expand upon the necessary

PSU functions with Active Power Factor Correction (PFC), which yields higher efficiency levels and less power grid pollution. The VP450P operates up to 82 percent efficient, and VP550P operates up to 85 percent efficient. In addition, these PSUs feature industrial grade protection circuitry that prevents damage caused by over current (OCP), over voltage (OVP), short circuits (SCP) and over power (OPP). The PSUs are equipped with a silent 120mm fan to optimize cooling and reduce noise. All VP models are painted black and include a 2 year limited warranty.

PRICE: VP350P: Rs 2,500; VP450P: Rs 3,500; VP550P: Rs 4,500
WEBSITE: www.antec.com

ASROCK PCIe 3.0 motherboard

ASRock has launched the Fatal1ty Z68 Professional Gen3, bringing the best package for smooth gameplay. It is the world's first motherboard that supports PCIe 3.0, which offers more bandwidth to enable faster communication between components inside a system. The Fatal1ty Z68 Professional Gen3 comes with two PCI Express 3.0 x16 slots and one PCI Express 2.0 slot and is capable of Nvidia Quad SLI



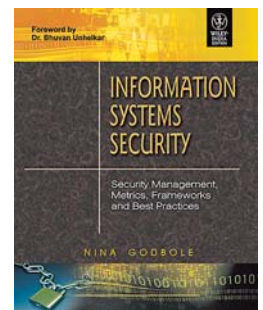
and AMD 3-Way CrossFireX. PCIe 3.0 could double the bandwidth of PCIe 2.0 and boost data transfers in systems. Coupled with the upcoming Intel Ivy Bridge processors with PCIe 3.0 support and next-gen PCIe 3.0 VGA graphics cards, users are assured to enjoy the full power of PCIe Gen3 standard. Digital PWM design improves the CPU power solution and delivers Vcore voltage to the processor more efficiently.

PRICE: TBA
WEBSITE: www.asrock.com

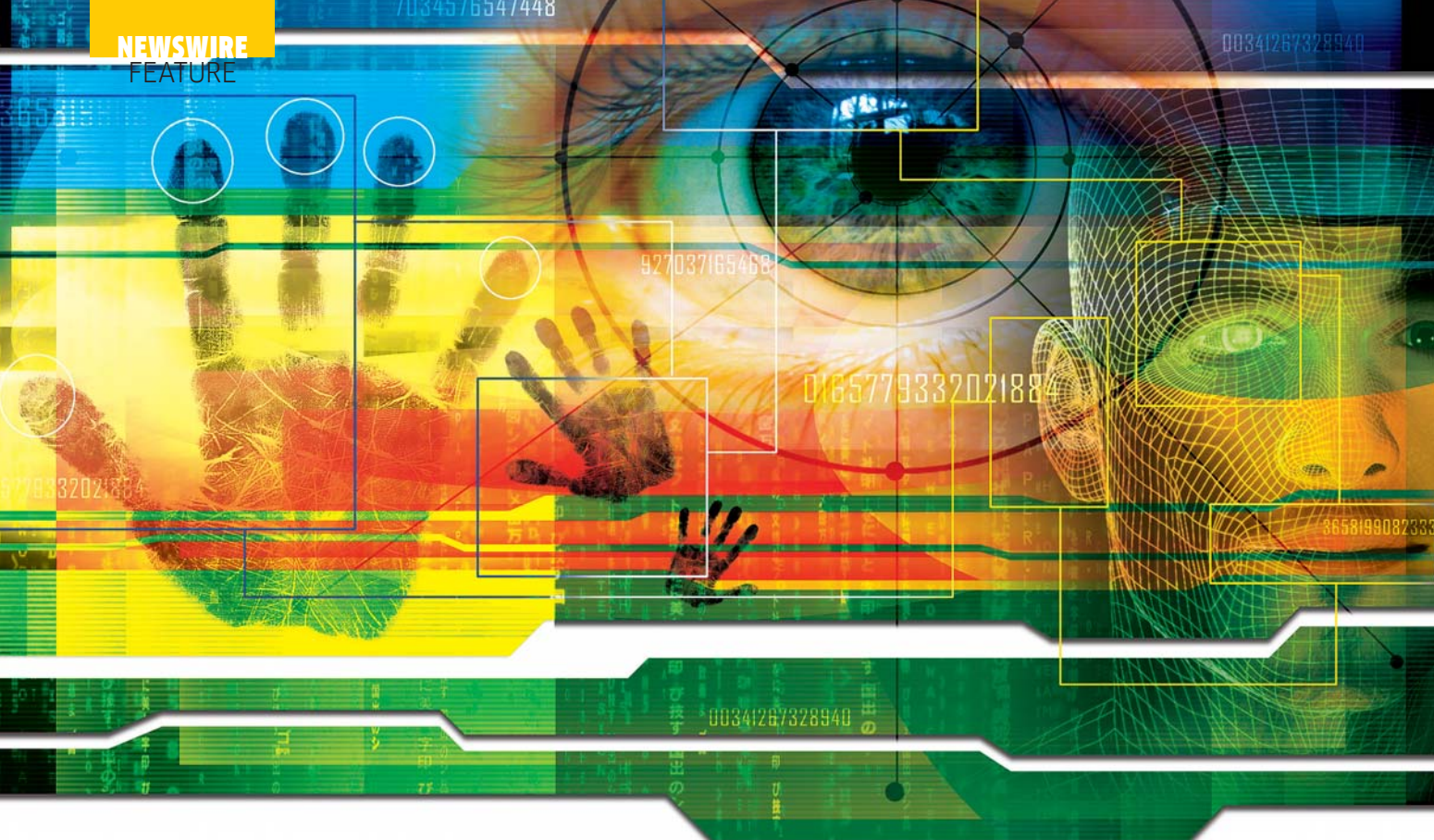
WILEY Information Systems Security

Written by an experienced industry professional working in the domain, a professional with extensive experience in teaching at various levels (student seminars, industry workshops) as well as research. One of the most comprehensive treatment of Information Security topic; truly a treatise on the subject. Coverage of SOX and SAS 70 aspects for Asset Management in the context of information systems security.

PRICE: TBA
WEBSITE: www.wiley.com



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Aadhaar: Define Your Identity

This ambitious project undertaken by the Government of India aims to provide every citizen with a unique identity number based on their biometric profile. BY PRIYANKA TILVE

We have several documents that currently qualify as ID proof, such as ration cards and driving licenses, but these are superficial, as they don't take into account fundamental aspects that set each individual apart. In a bid to provide a unique identity to each citizen, the Government of India has formed the Unique Identification Authority of India.

Headed by ex CEO of Infosys, Nandan Nilekani, the agency aims to provide a 12-digit unique identity number for all citizens. The project is ambitious to say the least, as by 2014, the Government wants half of India's population to be allotted Aadhaar numbers. This translates into a staggering 600 million Indians, whose biometrics - photograph, fingertips and iris scan, will be recorded and compared. On 29th September, 2010, Ranjna Sonwane from a small tribal village in Maharashtra, became the first Indian to receive an Aadhaar number. Since then, the project has already crossed the million mark. We spoke with RS Sharma, director general and mission

director of UIDAI to find out more about Aadhaar and its benefits.

What is Aadhaar?

Aadhaar is unique 12-digit number that will be issued to individuals by the UIDAI. The aim is to issue a unique ID number that can be verified and authenticated in an online, cost-effective manner. Most importantly, it should be robust enough to eliminate duplicate and fake identities.

However, getting an Aadhaar number is not mandatory. "The authority has a multi-registrar policy, whereby various Government agencies will enable residents to get enrolled. There is no deadline to get an Aadhaar number. Also, Aadhaar cannot be used as a replacement for existing ID proofs. It is also important to recognize that a ration card is not merely a proof of identity or address; it establishes eligibility to receive rations. Similarly, a driving license establishes eligibility to drive. Service providers may choose to embed Aadhaar into exiting forms of identification to make checks more robust," says Sharma.

Features of Aadhaar

You may wonder why anyone would enroll for Aadhaar if it isn't mandatory, but having an Aadhaar number may actually be beneficial. Firstly, the number will, over time, form the basic, universal identity infrastructure over which registrars and agencies across the country can build their identity-based applications for delivery of services in an effective and cost-efficient manner. Registrars may include state governments, state public sector units (PSUs), banks, telecom companies, etc. who may in turn partner with enrolling agencies to enroll citizens into Aadhaar. Once residents enroll for Aadhaar, service providers will no longer face the problem of performing repeated Know Your Customer (KYC) checks before providing services. They would no longer have to deny services to residents without identification documents.

Another feature of Aadhaar is that, over time, it will be recognized and accepted across the country and across all service providers. Also, authentication would not be a hindrance, owing to the

centralized technology infrastructure of the UIDAI. It enables 'anytime, anywhere, anyhow' authentication, which can be done both online as well as offline. Offline authentication can be done via cell phone or land line. Aadhaar will thus give migrants mobility of identity, and it will provide flexibility to poor and rural residents. Aadhaar is also crucial for them as they lack identity documents and Aadhaar may be the first form of identification they will have access to. It will empower them to access services like banking, public distribution system, as well as government schemes like National Rural Employment Guarantee Act (NREGA) etc.

Aadhaar will also pave the way for a more cleaner and robust data bank. Today, there are multiple databases in existence and so it's possible for people to furnish different details to different agencies. But since Aadhaar will be centralized, the instances of duplication and fraud will be rare. Every new applicant's data will be sent to the Central ID Data Repository (CIDR), where it will be checked and verified on key demographic fields and biometrics, against the existing data collected. This self-cleaning mechanism will ensure that there is no duplication of data.

How to get Aadhaar?

Information about the Aadhaar enrolment will be made available in the local media.



Aadhaar relies on biometrics, which provides reliable proof of ID that cannot be tampered with.



Aadhaar is crucial for the poor and rural residents, as it will provide them with identification, which will help them avail of services like banking and employment.

You will then have to go to the enrolment camp nearest to you and register yourself for Aadhaar. At the time of enrollment, you will have to provide certain documents such as ration card, passport, voter ID, driving license, electricity bill etc. as proof of identity. After registering, you will go through biometric scanning of fingertips and iris. You will also be photographed and given an enrolment number. Your Aadhaar number will be issued to you within sixty to ninety days.

In the near future, the agency plans to further simplify this process by enabling online enrollment for Aadhaar. "Yes, in the near future, we may Web-enable only the demographic data entry piece to make the process more convenient for residents. However, as biometric attributes also have to be captured, the entire process cannot be 'e-enabled'. Also, a significant challenge in densely populated regions is crowd control. We are trying to stagger enrolments in such areas. Our multi-registrar approach also ensures that there are enough enrolment centers in densely populated areas for residents' convenience," says Sharma.

Technology Used

Your biometric profiling will be done with the help of an iris scanner, a fingerprint scanner and a Web camera. The iris cameras conduct a mathematical analysis of the random patterns that are visible within the iris of an eye from some distance. Unlike fingerprints, which can become difficult to recognize over the years due to manual labor, the iris of an eye remains unchanged and is unique to every individual. The digital photo of the

iris pattern is converted into an encrypted digital template, which cannot be re-engineered or reproduced in any sort of visual image. Iris recognition therefore affords the highest level of defense against identity theft, the most rapidly growing crime. Next up is face detection, which is used in biometrics, often as a part of (or together with) a facial recognition system. It is also used in video surveillance, human computer interfaces and image database management. The face detection system will measure and analyze the overall structure, shape and proportions of the face. These include the distance between the eyes, shape of the nose, jaw structure, forehead, mouth, etc. Finally, fingerprint scanning is done with the help of a scanner that captures a digital image of the fingerprint pattern. The scan is then digitally processed to create a biometric template, which is stored and used for matching.

Once the data has been captured, it is then encrypted and sent to the CIDR (Central ID Data Repository). Here, it will be cross-checked for duplication against the existing data, thus reducing the possibilities of fraud. The authentication is enabled in a manner that the identity verification queries will only receive a Yes and No responses. Thus, the architecture ensures complete data security and under no circumstance will the residents data be shared with third parties. Also, to ensure seamless functioning, an Analytics and Continuous Improvement team reviews operations on an ongoing basis and releases relevant, actionable reports for all stakeholders. 

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Sachin Pandit

3G Demystified

Since its launch, 3G has been lapped up by eager smartphone users, but the high bills left many of them disheartened. To avoid this, it's important to choose a right plan from the plethora of options offered by service operators. **BY PRIYANKA TILVE**

Those with high end smartphones waited with bated breath for the launch of 3G. After all, it promised greater data speeds, which meant faster Internet browsing, video calls and much more. But since it rolled out, 3G has generated mixed reviews. For one, the service is still in the nascent stage and there are still lots of teething issues such as infrastructure, which the service providers will have to address on an urgent basis.

At this stage, 3G is best suited for people who make the maximum use of their smartphones or tablets. The higher speed will make surfing the Web, streaming media and chat, etc. a breeze. But if you use your phone to just check email once in a while and surf only when commuting, then you may not really need 3G. The regular 2G, which also offers decent speeds, should suffice and it will

also be economical.

If you decide you need 3G, then you will have to carefully comb through the scores of plans offered by the service providers to select the one that meets your requirements without burning a hole in your pocket.

How to choose a 3G plan?

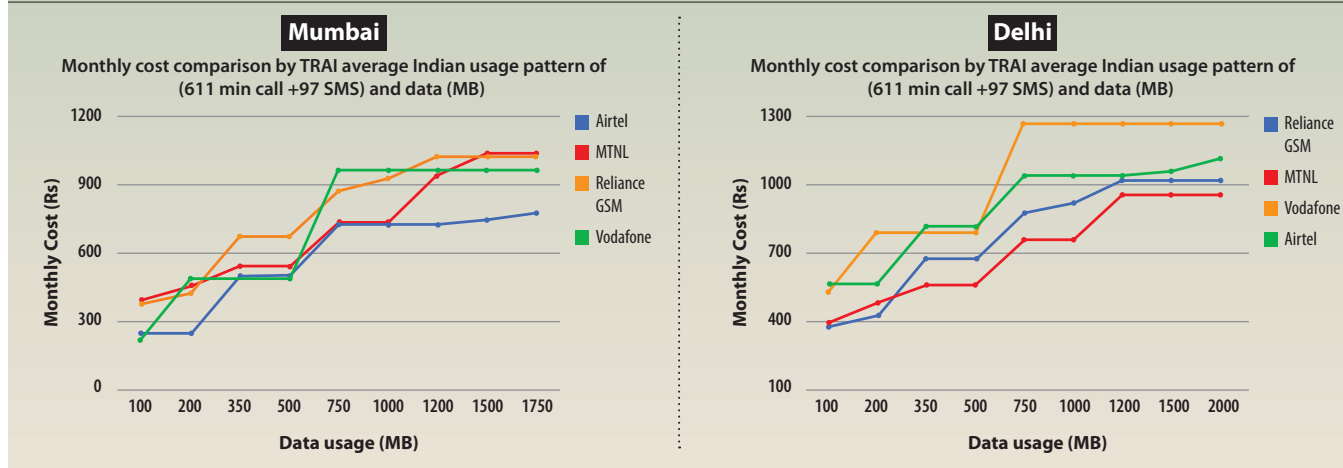
All said and done, 3G can be a bit expensive if you do not choose wisely. So if you do not wish to end up with a gigantic bill, then it's better to carefully study the plans offered. But looking at the plethora of plans available across the service providers, finding the best plan is like looking for a needle in a haystack. What may seem to be a popular plan may not necessarily be the best for you as it all depends on your usage, which includes your calls, SMS, downloads etc. To make the process simpler, most of

the telcos offering 3G have introduced an algorithm that helps you determine a plan. All you have to do is key in your data usage details like number of calls per month, SMS usage, data usage, downloads, emails etc.

You can go a step further and check 3gsimplified.com, a website founded by Jigar Doshi of Chennai-based Cheeni Labs. They have created an algorithm that will help you to find a suitable 3G plan based on your usage details. First up will be the overall best 3G plan across all the operators, and it will further show you best plan for from each of the operators. It will further also explain the cost, including cost for local, STD calls, SMS, data usage and additional suggested top-ups. Apart from mobile tariffs, the site also compares data cards.

Jigar says, "We had moved back from the US and were confronted by our first

ANALYSIS OF 3G PLANS BY 3GSIMPLIFIED.COM



problem when we went out to get a mobile plan. Getting a mobile phone and a connection was really simple. However, choosing the right plan was befuddling. There is the problem of many operators, but even if you decide on just one operator, say Airtel, the number of plans, rate cutters, top-ups is confusing. Plus the pricing is complex; a simple phone call can be charged at six different rates based on who you call and when." So they first went about normalizing all the plans into simpler format.

He says, "We have spent a lot of time building our comparison engine because the space, as we realized, is incredibly complex. One of the key challenges we faced is that rates of calls, SMS, data are at different granularities across operators. For example, Docomo offers 1 rate for local STD and roaming, whereas in Airtel, they may be different rates. In some plans, the freebies are also thrown in different granularities. You may have a different rate for local out network mobile calls, local in network mobile calls and local landline calls, but they may give you 100 free total local minutes. We normalize across all these parameters."

Going a step ahead, Jigar has also included suggestions for top-ups with your plans. This, he says, will ensure that you get the most out of your plan. He explains, "The key complexity of our algorithm lies in customizing plans. Just choosing the right plan does not get you the most savings. To each plan, you need to add the right top-ups or rate cutters. To do that, you need to choose the right top-ups. If a user sends a lot of local SMSs, he needs to add a different

top-up than the user who sends a lot of STD SMSs. If you do both, then there is a different top-up for you. Each result that we show on our website is customized to a user's usage pattern."

3G Experience

Atul Bhonsle, a Mumbai-based dealer of luxury yachts, who currently uses a Vodafone 3G connection for his iPad and a Reliance data card for his laptop, says, "Even though I find Vodafone steeply priced, I am happy with the service and have no complaints whatsoever. I also use a Reliance data card for my laptop, which is well balanced in terms of speed and price. But even though it offers great speed, the moment you step indoors, the signal drops. It doesn't even allow you to login and you have to sit near a window for optimal signal strength." Atul is not alone; a lot of 3G users across the country have reported similar problems even in urban areas. 3G is still in its nascent stage and the infrastructure needs to catch up fast. Hopefully this will happen sooner rather than later.

Jigar also echoes these sentiments, he says, "We have been early adopters of 3G services with Airtel and BSNL in Chennai. We have been impressed with the speeds of both these services as long as we manage to get a 3G network. In many places, especially indoors, the signal does seem to fall off and defaults to EDGE networks. This also happens when we leave urban areas. We hope that this will only improve as the network rolls out." While speaking about the 3G plans currently available in the market, he says, "Broadly, the operators have launched

small screen plans for mobile phones and large screen plans for datacards. There is no truly unlimited 3G data plan. The unlimited plans available give you some amount of data at 3G speeds and once you exceed that limit, you will be downgraded to 2G speeds. We do not expect this to change because there are restrictions world over on 3G data."

Another hiccup, especially for frequent travelers, is that their service provider may not have 3G services in other states. So its better you ensure that your service provider provides 3G at least in the cities that you visit frequently. However, in order to address these issues, the leading service providers are entering into bilateral roaming agreements. Vodafone's spokesperson says, "Roaming agreements - both inter and intra circle - are the norm in the Indian telecom industry since they help a service provider to provide seamless service to its customers. Vodafone has entered into a bilateral roaming agreement, both inter and intra circle, with IDEA and Airtel to provide 3G services to our customers in the circles where we have not built our own 3G network. With this agreement in place, Vodafone/Airtel/IDEA will bring a pan-India experience of 3G services to its customers."

With smartphones and tablets gaining immense popularity, it's only natural that people will look for high speed Internet to support these gadgets. This will ensure that 3G will have lots of takers. Once the prices are stabilized and infrastructure improves, 3G will go a long distance. □

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TABLET

BLACKBERRY
PLAYBOOK

VERDICT: A great tablet, but there's not much to play with.

FOR: Amazing performance, BlackBerry Bridge, good media playback.

AGAINST: Terrible app support, screen size isn't ideal for content creation.



The BlackBerry PlayBook is supposed to be RIM's savior, not only launching RIM into the red-hot tablet market, but also powered by the all-new QNX OS, as well as boasting of some great hardware specs.

Form Factor

Businesslike, tough, yet cool - this baby, featuring a 7-inch high-resolution 1024 x 600 WSVGA capacitive touchscreen with 4-finger multi-touch and gesture support, looks business-chic. The display is brilliant even in bright sunlight. With a back that's sort of rubberized, this thing is built tough and could easily take a few nasty falls without a murmur.

Our review unit came with 16 GB of internal memory and 1 GB RAM, but 32 GB and 64 GB versions are available. There's no support for microSD cards or SIM cards. The bottom of the PlayBook has a microUSB port for charging and tethering to a PC, an HDMI port that allows you to directly play movies, and a docking port. The PlayBook comes with two cameras—a 3 megapixel 1080p forward-facing camera, and a 5 megapixel 1080p rear-facing camera. While the PlayBook is definitely more portable than 10-inch tablets like the iPad2, it won't exactly fit into your pocket. However, when you're travelling cattle class on a packed flight, it's definitely more usable compared to its 10-inch brethren.



At the bottom lie HDMI port, docking port and a microUSB port for charging and PC connectivity.

multiprocessing capabilities and is an admirable piece of software that didn't crash on me even once. RIM is also constantly tinkering with the OS; in the week or so that we had the device, we received two OTA OS updates. When you add a 1 GHz dual-core Cortex-A9 CPU to the mix, the result is blazing performance. You get jaw-dropping multitasking capabilities, where you can have HD video, the Web browser, games and more open, and switch between all these easily.

A downward finger swipe from the top right corner brings up the system menu. Open apps appear as a series of smaller windows on the top half of the screen, and you can scroll through them. The bottom of the screen holds icons such as All, Media, Games and Favorites, besides Bridge when using BlackBerry Bridge. A few minutes is all it took to get used to the swipes needed for navigation on the device. Although not as intuitive as the iPad, this one's pretty darn close. The keyboard's nice enough but one minor issue is that the gyroscope seems to often have a mind of its own. Speed of reorientation can be annoying and often you need to give it a thorough shake to get the screen into the correct position. The browser is perhaps the best RIM has built to date and is full-featured with full Flash support. With built-in support for HTML 5, this is almost as good as a standard desktop browser. We had no problems with Flash-enabled sites and the browser rendered text, graphics and video very well.

Features and Performance

The BlackBerry Tablet OS boasts of symmetric

Media

The PlayBook handles most media formats very well. The speakers are excellent and deliver good music reproduction and HD video playback is superb. You also don't need to convert videos since it supports

DivX and XviD formats, and you can use an HDMI cable to connect the Playbook to your HDTV and view videos. Of course, you'll need a micro-standard type cable which is not included in the package. The 5 megapixel autofocus camera on the rear is a winner and delivered great pictures, even in fairly low light. Ditto with video recording in full HD 1080p.

Apps spoil the fairy tale

This is where the story goes sour. The PlayBook comes bundled with a decent set of tools for the average business user. The full version of Documents to Go comes with the PlayBook. There's Word To Go, Sheet To Go and Slideshow To Go and these are quite good. The unit we received also came with a few Indian apps such as Zomato, Vogue and a Tarla Dalal cookery app. There's also a nice video chat app that leverages the dual cameras, but you need another Playbook user in order to chat.

Peek into Blackberry App World, however, and unlike competing app stores where you can spend days browsing through what's on offer, this one is visibly empty, especially on the consumer apps front. Unlike the iPad, which can run almost all iPhone apps, existing Blackberry apps won't run on the PlayBook. We downloaded a few apps for kids and were appalled at the quality and UI. This is one area that RIM desperately needs to work much harder on. One way RIM wants to solve this problem is a plan to release emulators that will allow the PlayBook to run Android and Blackberry apps. However, this feature is still a few months away from being implemented.

Though native e-mail, calendar and memo apps are not available, if you are a BlackBerry smartphone user, you can simply use BlackBerry Bridge to tether your smartphone to the Playbook, and you'll be able

to access your e-mail, calendar, Blackberry Messenger, memos and even browse in the absence of Wi-Fi connectivity using the Bridge browser. The process to connect to Bridge is simple and CIOs should be delighted because Bridge ensures that no

data resides on the Playbook. The minute the Bridge connection is broken, the cache on the Playbook is cleared. Another reason CIOs might prefer the lack of native e-mail apps is that since users need to check e-mail through the browser when not using Bridge, no data resides on the tablet.

Connectivity and Battery

The currently available Playbooks offer only Wi-Fi and GPS. Future versions will offer 4G + WiMax, 4G + LTE and 4G + HSPA+, but these are months away from launch. Besides, India has just about started on the 3G journey, and 4G is at least a year or two away. RIM claims you can also use your smartphone as a tethered modem with the PlayBook. We tried it, but didn't get 3G browsing speeds, which may have been because of service provider's 3G network in Mumbai. Battery life is good and was something RIM has worked feverishly on. We got around 5.5 to 8 hours of battery life from the inbuilt Li-Po 5300 mAh battery with mixed use. Overall, this should easily be enough for a day's worth of Playbook use.

Conclusion

We have to admit that the Playbook grew on us. In a line, it's a great tablet with a lousy app store. While you can do your basic work on it, building a complex presentation from scratch or working on a complicated spreadsheet won't be easy because of the small screen and touch input. So, like most tablets, it's ideal for content consumption rather than creation. Since it comes from the BlackBerry stable, quite a few enterprises may take to it because CIOs would love the security aspects of BlackBerry Bridge. RIM also may have set up the foundation for a future winner here. Unlike Nokia, which turned over and killed MeeGo, RIM has displayed the guts to innovate on its own and go for a whole new OS rather than adopt someone else's. Priced at Rs 27,990 for the 16 GB version, the Playbook doesn't come cheap and considering the lack of app depth, may be priced a tad high. If you're a Blackberry power user or fanatic, you should try this one, but if you're not, it might be a good idea to wait till RIM gets its apps act right. 

- Ivor Soans



The Playbook presents an intuitive interface for browsing media files and multitasking on it is seamless.

SPECIFICATIONS

Rs 27,990 (16 GB)

Rs 32,990 (32 GB)

Rs 37,990 (64 GB)

www.in.blackberry.com

Dimensions (WxHxD): 194 x 130 x 10 mm; Weight: 425 g; Processor: 1 GHz dual-core Cortex-A9 CPU; Memory: 16 GB internal; RAM: 1 GB; Display: 7-inch TFT, 600x1024, 16M; Camera: 5 MP, 1080p video; Data: Wi-Fi N, Bluetooth, micro USB.

CONTACT Blackberry
PHONE 9341002903
EMAIL jagan.g@redington.co.in

RATINGS

BUILD QUALITY	★★★★★
ERGONOMICS	★★★★★
FEATURES	★★★★★
PERFORMANCE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★☆



The 8 megapixel camera equipped with dual LED flash records video at full HD resolution.

SPECIFICATIONS

Rs 32,000

www.htc.com/in

Dimensions (WxHxD): 126.1 x 65.4 x 11.3 mm;
Weight: 148 g; Processor: 1.2 GHz dual-core processor,
Adreno 220 GPU; Memory: 1 GB internal; RAM: 768
MB; Display: 4.3-inch S-LCD, 540x940; Camera: 8 MP,
1080p video; Data: GPRS, EDGE, 3G, Bluetooth, Wi-Fi
N, microUSB.

CONTACT	HTC India Pvt Ltd
PHONE	9811428765
EMAIL	shaurya.vedvyas@brightpoint.com

RATINGS

BUILD QUALITY	★★★★☆
ERGONOMICS	★★★★☆
FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

SMARTPHONE

HTC SENSATION

FOR: Great display, good camera.

AGAINST: Buggy UI, poor video playback, expensive.

Like most HTC handsets, the Sensation is designed to be slick, and the curved edges and dark tones make for an elegant device. It features a 4.3-inch display with a 540 x 960 pixel resolution; just a few pixels shy of the Retina Display. Encased in Gorilla glass, fingerprints may be a slight issue, but scratches won't. Although HTC's Sense UI version 3.0 doesn't really bring too much new to the table, it does add quite a bit of cosmetic appeal. For starters, the Lock screen is all new with a circle-drag-to-open feature and the option to have four quick access shortcuts. A 3D-ish scrolling setting has also been thrown in to make the UI a little more attractive.

There was considerable lag with various widgets each time we locked the handset for awhile and then unlocked it. Sense UI was a bit of a mess, although we could attribute it to being an issue with this test unit, as you don't expect sluggishness from a Gingerbread device running on a 1.2 GHz dual-core CPU with Adreno 220 GPU. Other than the issue with speed, HTC Sense UI is still the most competent interface to come preloaded onto a phone.

The display itself is not as vibrant as Xperia Arc or the Galaxy S II, but in terms of image sharpness and color saturation, we prefer it even if it's a little harder to see in bright sunlight. Another bit of a let down was the video playback. None of our DivX videos worked, so we were forced to download a third party player. Although the Sensation has no HDMI-out support, it does support TV-out via MHL as well as DLNA for streaming. Audio

playback wasn't an issue though. Tones were crisp and clear at a high enough decibel level. With the added bonus of EQ presets and SRS enhancements, we thoroughly enjoyed the Sensation's music prowess.

For connectivity, the Sensation's got it all, from 3G with HSDPA 14.4 Mbps and HSUPA 5.76 Mbps, Wi-Fi with Hot Spot creation and DLNA, tethering support, Bluetooth 3.0 with A2DP and USB 2.0 with MHL. Thanks to Adobe Flash 10.3 support, Web browsing is enhanced, and setting up email is simple even for Microsoft Exchange. For the GPS module, aside from Google Maps, HTC's Locations includes Footprints for Geotagging, adding notes to images, and 3D mapping with directions.

The Sensation is equipped with an 8 megapixel auto and touch focus camera with a dual LED flash. It features various camera settings and fun effects, including white balance, scene modes, ISO options, geotagging and face detection. Video records at 1080p and quality, although slightly jittery, was not too bad. Image quality is sharp, but just a little grainy in native resolution, while colors seemed to be retained quite well. On a full charge, the Sensation ran for about a day and a half, with standalone talk time of about 5 hours.

With a price tag of Rs. 32,000, which is Rs 2,000 more than the Galaxy S II, we're not convinced that the Sensation is a worthy consideration. In fact, we'd rather go with the Incredible S that's priced much lower.

- Shayne Rana

VERDICT

A POWERFUL HIGH-END SMARTPHONE WITH A FEW DRAWBACKS.

PHONE

NOKIA E6

FOR: Great build, improved OS, great battery life, good media support.**AGAINST:** Fixed focus camera.

The E6 looks and feels expensive and sophisticated, even though it's not. The display is a tad bigger than the E72 at 2.46 inches. The capacitive touchscreen features a Gorilla glass display that gives a sharp and crisp image. Nokia has gotten rid of the two 'Option' buttons on either side since you can now simply touch the screen to access them. The D-pad is still present and comes in handy, but the touch screen is quicker.

The keypad is similar to the previous models with some slight alterations like a larger space bar. The feedback of the keys is very good and you'll seldom find yourself hitting the wrong one. The E6 ships with Symbian Anna, and the first noticeable difference is the snappier response and a new set of icons. There are four home screens by default, with the ability to add one more. The process of moving shortcuts is simple, but it feels a bit clunky compared to iOS or Android. There's a new notification system on the upper right hand corner, and tapping it brings up a little shortcut window giving you access to the connectivity menu, SIM card status, alarm and USB mode. Flipping through the home screen is pretty quick, but there are slight jerks and lag when opening the main menu and applications.

This E6 may be a business phone, but it packs in good multimedia features as well. The new music player offers a Cover Flow-like view for the albums. Audio quality through the bundled headset is average; the E6's true potential can only be realized by using a better pair of

earphones. Nokia have kept the Loudness and Stereo Widening options, which make a huge difference. The default video player handles all major video codecs and containers like MKV, AVI, MOV and FLV. It easily handles 720p files without breaking a sweat, but for some reason, we it didn't play back audio in the 720p AVI and MKV files we tested.

The E6 supports 3G and EDGE data connections, plus Bluetooth 3.0, Wi-Fi N, and USB 2.0 with USB on-the-go support. You can configure multiple mail boxes, right from Gmail to your office accounts. There are plenty of productivity and social apps as preloaded. The file manager gives you full access to the phone's internal 8 GB memory and your memory card. There's the full version of Quick Office, Zip to create archives, and Adobe Reader.

The phone's 8 megapixel fixed focus camera is no good for macro shots. The dual LED flash, while powerful, ends up ruining the shot if the object is close by as it appears out of focus and over exposed. It also cannot capture a lot of detail. The E6 can record video in 720p at 25 fps, and the captured video is quite smooth. The quality of the front facing camera is not too great since it's just VGA. The 1500 mAh Li-Ion battery gives two full days of heavy usage. This is one area where Nokia continues to deliver time and again.

At a street price of around Rs.17,999, Nokia's E6 offers tremendous value that makes it a very good buy for anyone looking for a smart yet trendy QWERTY phone. The touch screen is just an added bonus. 

- Roydon Cerejo



The 8 megapixel camera doesn't feature autofocus and the dual LED flash results in overexposed shots.

SPECIFICATIONS**Rs 17,999**www.nokia.co.in

Dimensions (WxHxD): 115.5 x 59 x 10.5 mm;
Weight: 133 g; Processor: 680 MHz ARM 11 processor;
Memory: 8 GB internal; RAM: 256 MB; Display: 2.46-inch TFT, 640x480; Camera: 8 MP, 720p video; Data: GPRS, EDGE, 3G, Bluetooth, Wi-Fi N, microUSB, USB On-the-go support.

CONTACT	Nokia
PHONE	+91 (CITY CODE) 30303838
EMAIL	NA

RATINGS

BUILD QUALITY	★★★★★
ERGONOMICS	★★★★★
FEATURES	★★★★★
PERFORMANCE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★

VERDICT

A FEATURE-RICH SMARTPHONE THAT OFFERS GREAT VALUE FOR MONEY.



DIGITAL CAMERA

CANON POWERSHOT SX230 HS

FOR: Great capture quality, slow motion videos look cool, manual mode.

AGAINST: Heats up after prolonged use.

The Canon PowerShot SX230 HS is the successor to the SX210 IS. It is equipped with HS system, which comprises of a high-sensitivity sensor and DIGIC 4 image processor. According to Canon, this new system helps capturing crisp and noise-free images, especially in low light conditions.

The lens has a focal length of 28 mm at the widest end and has a zoom ratio of 14X; great for close-ups, wide landscapes and distant subjects. The resolution of the sensor has been lowered from 14.1 megapixels to 12.1 megapixels. The ISO range has received a slight bump due to higher sensitivity of the new sensor. You can now shoot 12.1 megapixel images at up to ISO 3200. With improved video recording capability, it's possible to shoot full HD videos at 24 fps. The 3-inch LCD display looks a lot better, with the resolution doubled to 431K pixels. The SX230 HS employs a GPS receiver, so it geo-tags photos by logging location coordinates into the EXIF data.

The control panel and intuitive user interface make this camera a breeze to use. Right at the top is the mode selection dial which allows instant switching between 13 shooting modes. The more serious modes (Program, Av, Tv and Manual) are placed above the Auto mode and the ones below are for sheer fun and creativity. Easier to use than the Auto mode is the Easy mode which is simply point-and-shoot with the option of using flash. P, Av, Tv and M modes allow manual control over white balance, ISO,

flash power, drive mode, aspect ratio, image size and compression. EV, focus, flash and self-timer functions can be accessed via the d-pad. The jog dial helps navigating through functions and setting the shutter speed and aperture. Next on the mode selection dial are commonly used scene presets such as Portrait, Landscape and Kids and Pets. The rest are grouped under SCN mode, which has Smart Shutter (uses face detection to shoot automatically), High Speed Burst, Best Image Selection, etc. The most exciting modes are grouped under Creative Filters, which has Toy Camera Effect, Monochrome, Miniature Effect, Super Vivid, etc. We tried all of these and the results were super-cool.

We tested the camera under various lighting conditions and ISO values. The camera performs best in broad daylight, capturing great colors and details. ISO 3200 is very useful in poor lighting, but the images are quite noisy. However, if treated (noise removal) in Photoshop or Lightroom, they look very acceptable. Macro shots look great, but had the minimum shooting been less, the reproduction of finer details would have been better. The quality of videos shot was good. Optical zoom is allowed while shooting and the playback was smooth so long as there was no quick panning.

The SX230 HS is a brilliant compact mega-zoom camera. Note that the older SX210 IS is still retailing for the same price; make sure you get this one.

- Anand Tuliani



The large screen of the SX230 HS has an aspect ratio of 16:9 which makes it convenient to shoot HD videos.

SPECIFICATIONS

Rs 20,995

www.canon.co.in

Dimensions (WxHxD): 106 x 59 x 33 mm; Weight: 223 g; Resolution: 12.1 megapixels; Focal length: 28 - 392 mm (14 x optical zoom); Aperture: F3.1 - F5.9; Shutter speed: 15 - 1/3200 sec; Display: 3-in, 461k dots; Video: 1920x1080 @24 fps.

CONTACT	Canon India
PHONE	0124-4160000
EMAIL	info@canon.co.in

RATINGS

BUILD QUALITY	★★★★☆
ERGONOMICS	★★★★☆
FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

VERDICT

A FUN CAMERA WITH LOTS OF FEATURES TO PLAY AROUND WITH.



DIGITAL CAMERA

SAMSUNG PL210

VERDICT: Packs a good feature set but fails to deliver.

FOR: Easy to use, Smart Filters are fun, compact design.

AGAINST: Poor detail reproduction, low resolution LCD, slow flash recycle.

SPECIFICATIONS

Rs 11,990

www.samsung.com

Dimensions (WxHxD): 100 x 59 x 20 mm; Resolution: 14 megapixels; Focal length: 27-270 mm (10x optical zoom); Aperture: F3.3-F5.9; Shutter speed: 8-1/2000 sec; Display: 3-inch; Video: 1280x720 @24 fps.

CONTACT	Samsung
PHONE	1800 110011
EMAIL	support.india@samsung.com

RATINGS

BUILD QUALITY	★★★★☆
ERGONOMICS	★★★★☆
FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

The 14-megapixel Samsung PL210 is one of the slimmest compact megazooms around. Despite having a 10x zoom lens, it's just about pocketable. The lens starts at 27 mm which helps capturing wide scenes, and extends to 270 mm for shooting distant objects. The UI is very intuitive and navigating using the control panel is very easy. Instead of a dial, this camera has a Mode button which allows selecting from five modes. The Smart Auto mode is for beginners, wherein the camera automatically adjusts the exposure parameters depending on the type of scene. The Program mode offers control over EV, ISO, white balance, face detection, focus area, light metering, IS

and drive mode. Smart Filters let you add effects like Vignetting, Half-tone dot, Sketch, Miniature, etc. The PL210 can shoot movies at 720p with optical zoom. While the feature set of this camera is very good, it scores low on performance. The images lack detail due to strong compression artefacts. It takes a couple of seconds for the flash to recycle, and ISO values above 400 yield grainy results even in broad daylight. 720p videos were unacceptable because they came out very jittery. If you want a good compact megazoom without spending much, we recommend the Canon PowerShot SX130 IS (similar budget) or the Sony Cyber-shot DSC-H70 which costs Rs 1,500 more.

- Anand Tuliani

PHONE

SAMSUNG GALAXY ACE S5830

VERDICT: A well-priced phone with decent functionality.

FOR: Responsive UI, good music player.

AGAINST: Poor video codec support, average camera.

The Galaxy Ace has a 3.5-inch capacitive touchscreen encased in Gorilla Glass, but it fails to look as sharp as it should. It comes with Android Froyo and Samsung's TouchWiz 3.0 UI. The 800 MHz ARM 11 processor and Adreno 200 GPU handles everything very smoothly. Integrating your contacts with your Google and social networking accounts is a one-time process, but it isn't easy. This handset features the DNSe sound enhancement and 12 sound presets. There's also virtual 5.1 stereo sound, which sounds great, and stereo FM with RDS. iPhone format MP4 video files played quite well, as did HD Youtube videos. The handset is 3G enabled with

HSDPA (7.2 Mbps), and features Wi-Fi with 3G-enabled Wi-Fi hotspot. It also supports DLNA for media streaming, plus standard Bluetooth 2.1 and USB 2.0 connectivity. Although Web browsing is not difficult, lack of Flash support hurts. The 5 megapixel autofocus camera doesn't capture very good detail outdoors, and indoor images too were very poor. Videos can only be captured at 320x240 and 15 fps. At about 3 hours 30 minutes of talk time, the battery life is just average. A few issues aside, The Ace is a decent buy thanks to a great UI and decent audio quality. Plus it'll be getting a Gingerbread update soon.

- Ashish Koshy



SPECIFICATIONS

Rs 16,720

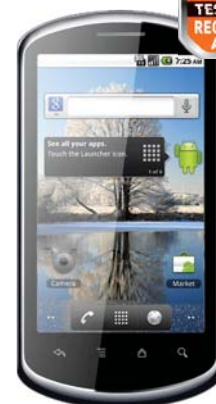
www.samsung.com/in

Dimensions (WxHxD): 60 x 112.4 x 11.5 mm; Weight: 113 g; Processor: 800 MHz ARM 11; Memory: 158 MB internal; OS: Android Froyo v2.2; Display: TFT 320 x 480, 3.5 in; Battery: 1350 mAh; Talk time: : 6.5 hrs; Standby time: 420 hrs

CONTACT	Samsung India
PHONE	0124-4881234
EMAIL	rengith.n@samsung.com

RATINGS

BUILD QUALITY	★★★★☆
ERGONOMICS	★★★★☆
FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆



PHONE

HUAWEI U8800 IDEOS X5

VERDICT: A well-equipped, slightly expensive smartphone.

FOR: Good build quality, smooth UI, expansive connectivity features.

AGAINST: Underwhelming camera and audio player, average camera.

The X5's oval design and rubberized rear make it comfortable to handle. The 3.8-inch capacitive TFT LCD is crisp and clear, but not perfectly visible in bright sunlight. Running Android 2.2 on an 800 MHz Scorpion processor with an Adreno 205 GPU, the X5 is a very capable smartphone. The stock UI is quite basic; functionality and multitasking was smooth, and Huawei has thrown in Swype for text input. The X5's media prowess leaves a little to be desired. We found the decibel level to be a little low, but audio quality was clear. By contrast though, video playback volume via RockPlayer was no problem. The phone is well equipped for connectivity, with

3G, EDGE, and Wi-Fi with a hot-spot support. Other features included USB tethering, Bluetooth 2.1 with A2DP, and USB 2.0. With Flash 10.3 support, the Web is a much better experience. Image quality from the 5 megapixel camera, which supports macro, white balance, a few scene modes and geotagging, is nothing to write home about. The X5 can also record video in 720p, but again, performance is below average. The phone's battery can provide a little over a day and a half of usage, with average talk time of about 4 hours. At Rs 15,000, the X5 is just a little steep, but it does manage to offer quite a bit of functionality for the price.

- Shayne Rana

SPECIFICATIONS

Rs 14,999

www.huaweidevice.com

Dimensions (WxHxD): 120 x 62 x 11.6 mm; Weight: 130 g; OS: Android Froyo v2.2; Processor: 800 MHz Scorpion processor, Adreno 205 GPU; Memory: 2 GB internal; RAM: 512 MB; Display: 3.8-inch TFT, 480x800; Camera: 5 MP, 720p video; Data: GPRS, EDGE, 3G, Bluetooth, Wi-Fi N, microUSB.

CONTACT	Huawei Technologies
PHONE	1800 209 6555
EMAIL	service.hw.in@huawei.com

RATINGS

BUILD QUALITY	★★★★☆
ERGONOMICS	★★★★☆
FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆



PHONE

WYNNCOM OGO 077-KONNECT

VERDICT: A definite no-go.

FOR: Good build quality, well designed menus.

AGAINST: Sluggish UI, no Wi-Fi, poor keypad, bad camera.

The 077-Konnect is a lightweight dual SIM, quad-band phone. The 2.4-inch TFT display is bright, but the vertical viewing angles aren't great. The glossy keypad with grooved keys are a pain to use, and the optical trackpad lacks the necessary sensitivity. It features a Java interface and we quite liked the style and design of the icons. Navigation is sluggish, but you can use the two option buttons to quickly switch pages. The home screen has a neat layout and there's a customizable shortcut bar below. One problem is that every app has a separate icon rather than grouping

in categories. The music player is decent and easy to use. The sound quality is poor with the bundled earphones, but the built-in speaker is pretty loud. The video player supports 3GP, MP4 and RMVB formats well. The Konnect does not feature Wi-Fi, but supports EDGE data. The Opera Mini browser is preloaded, as are Nimbuzz and Snaptu for social networking. The 3 megapixel camera is poor, and captured images exhibit pale and lifeless colors. The inbuilt 1030 mAh battery is quite weak, delivering about a day's worth of usage.

- Roydon Cerejo

SPECIFICATIONS

Rs 4,499

www.wynnntelecom.com

Dimensions (WxHxD): 114 x 60 x 12.6 mm; Weight: 69 g; Memory: 23.9MB internal, upto 8 GB expansion via microSD; Display: 2.4-inch TFT; Camera: 3 MP; Data: GPRS, EDGE, 3G, Bluetooth.

CONTACT	Wynn telecom
PHONE	0124-4987400
EMAIL	info@wynntelecom.com

RATINGS

BUILD QUALITY	★★★★☆
ERGONOMICS	★★★★☆
FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆



MOBILE PHONE

TECH-COM T-65

VERDICT: A good dual-SIM phone with great ergonomics and good build quality.

FOR: Good build, decent looks, loud audio.

AGAINST: Poor imaging capabilities, below average hands-free audio quality.

With good build quality and decent looks, the Tech-Com T-65 dual SIM (GSM + GSM) mobile phone stands a good chance in the market. The phone features a 2.5-inch QVGA LCD display screen, a 1.3-megapixel camera, Bluetooth, an LED torch, MP3 player, video player (3GP, MP4), FM radio and a microSD expansion slot for up to 16 GB of additional storage. The phone also features a micro USB interface which connects to the PC allowing for mass storage, GPRS modem and webcam support. The phone has a 3.5 mm audio jack for use with standard headphones. It features a good user interface unlike the many others in its price range, and the display is also pretty crisp. Ergonomically, the keypad, though

a bit smaller than usual, is surprisingly very comfortable and highly tactile.

Our camera test results were pretty disappointing, with loss of details and sharpness. Recorded videos were pretty jittery too. Call tests and audio tests pass with flying colors. The bundled hands-free kit isn't great at reproducing audio files and FM radio, but voice quality and volume during calls is good. Bundled along with the T-65 comes a 4 GB microSD card and for the price tag this phone seems like good value. The T-65 is a good choice for those who are looking for a cheap and good-looking dual-SIM GSM handset. But if imaging and video recording/playback are also essential, you should look elsewhere. 

- Francis D'sa

SPECIFICATIONS

Rs 2,949

www.techcomindia.com

Weight: 109 g; Display: 2.5-in QVGA; Camera: 1.3 MP; SIM: GSM + GSM; Battery: 1800 mAh; Memory support: Up to 16 GB microSD.

CONTACT Techcom Technologies
PHONE 011-26428541
EMAIL techcom@airtelmail.in

RATINGS

BUILD QUALITY	★★★★★
FEATURES	★★★★★
PERFORMANCE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★

PHONE

INTEX IN 2020 VISION

VERDICT: A handy phone for senior citizens or disabled people.

FOR: Great build quality, good ergonomics; SOS feature is good for emergencies.

AGAINST: Display is small, navigating menus is a little complicated.

The IN 2020 Vision is designed for the aged or disabled. The dual-SIM phone has a Braille keypad with big buttons and a 1.6-inch dot-matrix screen that displays characters in a large font. These features make the phone ideal for the aged or the visually impaired. Along with the basic calling and messaging functions, the phone features an LED torch and a loud speaker FM radio. These functions, along with the keypad lock, can be easily accessed via physical switches on the sides. A voice reads aloud the numbers pressed while dialling, making it easy for senior citizens. An SOS button on the back sends an emergency text message, calls up to four programmable

contacts, and sounds a loud alarm. This is a great feature for elders living alone. The phone has an audio player with support for microSD cards up to 2 GB. The phone is also equipped with a feature called AudioPhone which uses the hands-free earphones to enhance in-call volume, acting as a hearing aid. Other handy features include multiple alarms, tasks, calculator, currency and unit converter and multiple language settings including Hindi. The only drawbacks are the small screen with single-line display for text messages, and the fact that the name of an SMS sender is not displayed even if the number is saved in the contact list. 

- Kushal Mamoovala



SPECIFICATIONS

Rs 2,500

www.intexttechnologies.com

Dimensions (WxHxD): 49 x 15 x 104 mm; Weight: 82 g; Display: 1.6-inch, dot matrix LCD; Storage: upto 2GB Micro SD; Functions: LED Torch, FM Radio, MP3 player, tasks, alarms, clock, calculator, currency converter; Rated talk time: 3 hours.

CONTACT Intex Technologies
PHONE 9899819904
EMAIL corpcomm@intexttechnologies.com

RATINGS

BUILD QUALITY	★★★★★
ERGONOMICS	★★★★★
FEATURES	★★★★★
PERFORMANCE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★

MEDIA PLAYER

ASUS O!PLAY GALLERY

FOR: Easy user interface, easy connectivity and setup, USB 3.0 PC link, Wi-Fi N built in.

AGAINST: Glossy surface, tad sluggish UI, no power switch.



If you are looking for an HD media player that features internal storage, networking features, and UPnP support, then you should check out the Asus O!Play Gallery. The player sports a 3.5-inch internal hard drive storage bay and supports media playback from flash cards using the card reader slots or external storage drives via the USB 2.0 and eSATA interfaces. Networking and Internet access can be obtained using the Ethernet port or the built-in Wi-Fi N interface. The media player also supports direct connectivity and control of for iPod, iPad and iPhone via the bundled cable for on-demand music and video playback from Apple devices. One can transfer videos and other media at blazing speeds from a desktop PC/laptop to the internal hard drive via the USB 3.0 PC link. The O!Play Gallery also supports Dolby TrueHD 7.1-channel audio for a rich HD entertainment experience. Other functions of the O!Play include online video and photo streaming from websites such as Netflix, Picasa, Flickr and Youtube and also includes several internet TV channels. Internet browsing capabilities are also expected in future updates from Asus. The player supports a large number of audio, video and photo formats, including MKV, TRP, FLV, VOB, ISO, WAV, OGG, FLAC, Dolby Digital AC3, DTS, BMP, PNG and TIFF. It also has support for subtitle and ID3 tags.

The O!Play sports a sturdy build, but the high-gloss exterior can be ruined in no

time by scratches and dust. The media player features flash card readers along with an eSATA port and one USB 2.0 port on the front, while the rear sports the iPod/iPhone connector, one USB 2.0 port, a USB 3.0 PC link, an Ethernet port, optical and co-axial digital audio S/PDIF outputs and an HDMI output. Sadly, this player cannot be used on standard CRT television sets for lack of a composite video output.

On the performance front, the media player managed to impress by flawlessly playing almost any media format thrown at it. Internet streaming from Youtube too was a great experience. Setting up the device was a cakewalk, but as far as using the bundled remote to control the entire player was concerned, we were slightly disappointed. The remote control, though easy to operate, was a tad sluggish, especially when browsing through a long list of Youtube search lists and network streamers. The remote has a jog dial, which doubles up as a D-pad, making it convenient to browse through the entire control panel. To make things easier while searching online or setting up the device, one can also connect a USB mouse and keyboard to the media player. The player consumes just 10 Watts of power and weighs only 720 grams without the internal hard drive. Bundled along with the product is an HDMI cable and the iPhone/iPad/iPod cable. 📺

- Francis D'sa

VERDICT

A GREAT ALL-IN-ONE HIGH-DEFINITION MEDIA HUB FOR THE LIVING ROOM.



The O!Play Gallery features networking support, USB 3.0 interface and coaxial and optical SPDIF outputs.

SPECIFICATIONS

Rs 12,000

www.asus.in

Dimensions (WxHx): **230x60.5x178 mm**; Weight: **720g**;
Connectivity: **2 x USB 2.0**; 5-in-1 MMC card reader,
Wi-Fi-N, Ethernet, USB 3.0 PC link, eSATA; Video output:
HDMI, Audio output optical and coaxial S/PDIF.

CONTACT	ASUS Technology
PHONE	022-67668800
EMAIL	reachus@asus.com

RATINGS

BUILD QUALITY	☆☆☆☆☆
FEATURES	☆☆☆☆☆
PERFORMANCE	☆☆☆☆☆
OVERALL RATING	☆☆☆☆☆
VALUE FOR MONEY	☆☆☆☆☆

HD MEDIA PLAYER

IOMEGA SCREENPLAY MX (1 TB)

VERDICT: Not the most attractive option at this price point.**FOR:** Simple to use, 1 TB hard drive built in.**AGAINST:** No networking, poor controls and navigation, uncomfortable remote.

Most USB media players either offer basic USB connectivity or add features that let users stream media across networks. The Iomega Screenplay MX has no networking capabilities, but it does have a built-in hard drive so users don't need to fiddle around with multiple USB drives. You can plug the device into a PC and mount it as an external drive, to copy over media files. You'll have to create your own folder structure to make it easier to browse through the files. You can even copy files from a USB drive, via the on-screen interface. Setup with an HDMI cable is fairly easy, but you also have the choice of component or composite output with digital audio. There's only a single USB

port on the front, which is disappointing. The bundled remote control is bulky and not very comfortable, with a poor layout and hard rubbery keys. The Screenplay MX's on-screen menus are basic, but simple and easy to navigate apart from a noticeable lag between button presses. You won't find many options in the main setup menu or during playback. The remote has buttons for subtitles and audio tracks, but you can't for instance scrub backwards and forwards along a timeline while a video is playing. The Screenplay is simple and basic, but you should consider a much richer device like the WDTV Live Hub, which has loads more features plus network capabilities at the same price. 

- Jamshed Avari



SPECIFICATIONS

Rs 9,999 (1 TB)

Rs 11,999 (2 TB)

www.iomega.com

Dimensions (WxDxH): 133 x 178 x 41 mm; Weight: 1 kg;
Output: Component, Composite, HDMI (up to 1080p),
Coaxial S/PDIF; Interface: USB 2.0 (host or slave)

CONTACT	Iomega Corporation
PHONE	18001802237
EMAIL	indiasales@iomega.com

RATINGS

BUILD QUALITY	☆☆☆☆☆
ERGONOMICS	☆☆☆☆☆
FEATURES	☆☆☆☆☆
PERFORMANCE	☆☆☆☆☆
OVERALL RATING	☆☆☆☆☆
VALUE FOR MONEY	☆☆☆☆☆



SPECIFICATIONS

Rs 4,595

www.amkette.com

Dimensions (WxDxH): 120 x 18 x 120 mm; Weight:
115g; Connectivity: 1 x USB 2.0, SD/MMC card reader;
Video outputs: HDMI, Composite, Component.

CONTACT	Amkette
PHONE	011-26389876
EMAIL	info@amkette.com

RATINGS

BUILD QUALITY	☆☆☆☆☆
FEATURES	☆☆☆☆☆
PERFORMANCE	☆☆☆☆☆
OVERALL RATING	☆☆☆☆☆
VALUE FOR MONEY	☆☆☆☆☆

MEDIA PLAYER

AMKETTE FLASH TV HD

VERDICT: A compact portable HD media player with a decent price tag.**FOR:** Compact design, simple UI.**AGAINST:** No network option, average performance.

The Amkette Flash TV HD is a compact HD media player. The player is round and flat and can be easily mistaken for a CD player. The build quality is about average and the top of the shell sports glossy enamel paint. On the sides lie the input and output ports such as a USB port, an SD/MMC card reader, composite and component AV outputs, S/PDIF audio out, power and HDMI. Sadly, network options were missing, which leaves you without the option of network streaming. The fully functional IR remote control is ergonomically designed for weight and size. The media player supports a fairly large number of media file formats,

including MKV, WMV, ISO, FLV, WAV, OGG, WMA, PNG, and TIFF. Support for subtitles and ID3 tags is built in and the player also supports external USB drives. The Flash TV HD has a very basic UI, which is easy to navigate. Simply plug in your USB storage/optical drive, browse through your collection and enjoy your favorite flicks or music. In terms of performance, the media player does a pretty decent job, except for the HD videos, which were a tad jittery. Overall, the Flash TV HD is a great media player for those on a tight budget, but if you want to stream media, there are other media players in the market you should look at. 

- Francis D'sa



LAPTOP

HCL ME M1014

VERDICT: Good configuration and a lot of room for improvement.

FOR: Good configuration, useful preinstalled apps.

AGAINST: No USB 3.0, glossy design, keyboard could have been better.

SPECIFICATIONS

Rs 37,900

www.hclinfosystems.com

Dimensions (WxHxD): 345 x 36 x 246 mm; Weight: 2.3 kg; CPU: Intel Core i5-2410M, 2.3 GHz; RAM: 4 GB DDR3; Hard disk: 500 GB; Display: 14 in, 1366x768 pixels; Optical drive: DVD writer; Networking: Gigabit LAN and Wi-Fi 802.11 N; Other features: Bluetooth, webcam, HDMI and card reader

CONTACT	HCL Infosystems
PHONE	0120-4203122
EMAIL	NA

RATINGS

BUILD QUALITY	★★★★☆
ERGONOMICS	★★★★☆
FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

The M1014 runs the Intel Core i5-2410M CPU and offers 500 GB of storage space. With 4 GB of RAM, you can rest assured multitasking would be smooth and demanding applications would run without a hitch. But there's a catch; it came pre-installed with 32-bit version of Window 7 Professional, which can utilize 2.6 GB of RAM. Other features such as Bluetooth, Wi-Fi 802.11 N, Gigabit Ethernet, DVD-writer, card reader and webcam are standard features. The ME M1014 looks good in an all-black as long as the sheen of the glossy surfaces is maintained. The build quality could have been better; the quality of plastic used in construction isn't the same as you'd find in laptops from bigger brands. The tactility

of the keyboard is also not satisfactory. Although the buttons are large and well-spaced, the key presses don't feel good. The laptop comes with utilities for data shredding, encryption, file splitting, locking drive partitions and blocking access to installed software. Microsoft Indic has also been provided, which enables text input in 10 regional languages. WinDVD 8 and Office 2010 Starter Edition are also included. The ME M1014 uses a 6-cell 4400 mAh battery, which in our tests survived 2.5 hours on a single charge with light load. With heavy load, expect 1.5 hours of battery life. For its configuration and performance, this laptop is a good deal at this asking price.

- Anand Tuliani

PC

APPLE iMAC

VERDICT: A solid Mac at an affordable price.

FOR: Excellent hardware, performance and value for money.

AGAINST: No USB 3.0 or Blu-ray, uncomfortable keyboard and mouse

The 2011 iMac refresh brings us powerful components and the new Thunderbolt standard, but the distinctive aluminum design has remained unchanged. The CPU options are second-generation Sandy Bridge Core i5 and i7, though their integrated graphics capabilities aren't being utilized. Instead, AMD's mobile Radeon chips handle the graphics. Our base-level 21.5-inch review unit offers pretty good value for money, with a Core i5-2400S CPU (2.5 GHz, 4 cores, 6 MB cache) and a Radeon 6750M GPU. The higher-end 21.5-inch model comes with a 2.7 GHz CPU and Radeon 6770, plus a 1 TB hard drive rather than 500 GB, which doesn't make

the upgrade seem worth the premium. A single Thunderbolt port promises 10 Gbps data transfers, but there aren't any peripherals out yet that can use it. USB is stuck at 2.0 speeds. Standard features include a new HD webcam, and Apple's now-standard shrunken keyboard and Magic Mouse, both wireless. The keyboard is the most frustrating part; we still don't know why the number pad was removed. The mouse's small flat shape won't appeal to everyone. Performance was impressive. We managed playable framerates in Crysis Warhead and Left 4 Dead at high settings, and real-world tests left nothing to complain about.

- Jamshed Avari



SPECIFICATIONS

Rs 64,900

www.apple.com

Dimensions (WxHxD): 52.8 x 45.1 x 18.85 cm; Weight: 9.3 kg; CPU: Intel Core i5-2400S (2.5 GHz, 4 cores, 6 MB cache); Graphics: AMD Radeon 6750M, 512MB GDDR5; RAM: 4 GB DDR3; Storage: 500 GB 7200 rpm; Display: 21.5-inch 1920x1080 LED backlit; Connectivity: Thunderbolt with mini DisplayPort, 4x USB 2.0, FireWire 800, Gigabit Ethernet, audio in/out, Wi-Fi N, Bluetooth 2.1+EDR

CONTACT	Apple India
PHONE	1800-425-0744
EMAIL	indiasales@mac.com

RATINGS

BUILD QUALITY	★★★★★
FEATURES	★★★★☆
PERFORMANCE	★★★★★
VALUE FOR MONEY	★★★★★



MFD

HP OFFICEJET 6500A PLUS

FOR: Fast printing, duplex printing.

AGAINST: Glossy exterior, feeble paper out tray.

The HP OfficeJet 6500A Plus multi-function device is definitely a speedy and convenient printer for daily office printing. It features a color inkjet printer, an A4-sized flatbed scanner with auto document feeder, color copier, fax machine, and a photo printer in one small package. The MFD also features both wired and wireless networking capabilities for a clutter-free connectivity.

For saving paper and reducing user intervention during 2-sided printing, the printer also sports an automatic duplex unit. Photos can be printed directly from a card reader which supports MS Duo, XD, MMC and SD flash cards. Scanning can be saved in PDF or JPG formats directly onto the flash cards without the need for a computer to be connected. Sadly, there is no USB port here which could support PictBridge or printing from USB pen drives.

The HP OfficeJet 6500A Plus has a very sturdy body, but the exterior is completely glossy which will attract dust and fingerprints and can be scratched very easily too. We found the output paper tray very flimsy, which was the only downside with regard to the overall build quality. The printer uses four conventional CMYK ink tanks; the black can be replaced with a larger capacity tank for larger volumes of plain documents. The front panel uses touch sensitive buttons which are illuminated when they can be used. Also included here is a 2.3-inch touchscreen display which makes it simple to use all the functions of the device. Finally, unlike

other manufacturers, HP still believes in powering their printers using an external power brick. The printer also features online apps built into the printer itself and also can be updated directly from the internet. The printer synchronizes with an online server 'www.hpprintcenter.com' for apps and pre-designed documents. These documents include games, news, calendars, crafts, recipes, coupons and a few more.

The printer can really spew out averages of 22 and 12 pages per minute in draft and normal modes respectively, while churning out just three pages per minute in the best mode. Since the MFD has an auto duplex mechanism, we also tested two-sided printing which resulted in six pages per minute in draft mode. Scanning A4-sized color documents or photos at 300 dpi resolution took around 32 seconds, while copying documents in monochrome and color took around 16 seconds and 29 seconds respectively.

Finally, 4x6-inch photo printing was a bit of a disappointment as the quality of the prints was only slightly above average. The photos were non-grainy and very sharp, had a good contrast and had a great color reproduction, but looked very dull and lacked life. Overall, since the printer is not meant for professional photo printing but is aimed towards small offices and corporate, it seems to fulfill the demands of speed, connectivity, convenience and quality. 

- Francis D'sa



The printer features duplex printing which helps save paper as well as time.

SPECIFICATIONS

Rs 11,999

www.hp.com

Dimensions (WxHxD): 18.75 x 17.72 x 10.17 in;
Weight: 8.2 Kg; Print resolution: 4800x1200;
Scan resolution: 4800 @ 48-bit; Functions: Print, Scan,
Copy, Fax; Connectivity: USB 2.0, Ethernet, Wi-Fi, Card
reader; ADF: Yes; Auto-Duplex: Yes.

CONTACT	HP India
PHONE	1800 425 4999
EMAIL	in.contact@hp.com

RATINGS

BUILD QUALITY	☆☆☆☆☆
FEATURES	☆☆☆☆☆
PERFORMANCE	☆☆☆☆☆
OVERALL RATING	☆☆☆☆☆
VALUE FOR MONEY	☆☆☆☆☆

VERDICT

AN EXCELLENT SOHO MULTIFUNCTION PRINTER FOR A SWEET PRICE.



PRINTER

HP OFFICEJET 100 MOBILE PRINTER

VERDICT: A highly compact mobile printer with a battery backup and Bluetooth connectivity.

FOR: Compact size, battery powered, speedy prints.

AGAINST: Below average photo prints.

SPECIFICATIONS

Rs 17,999

www.hp.com

Dimensions (WxHxD): 34.8 x 17.5 x 8.4 cm; Weight: 2.5Kg; Resolution: 600x600 dpi; Connectivity: USB 2.0, PictBridge, Bluetooth; Sheet capacity: 50 pages.

CONTACT	HP India
PHONE	1800 425 4999
EMAIL	in.contact@hp.com

RATINGS

BUILD QUALITY	★★★★★
FEATURES	★★★★★
PERFORMANCE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★

The tiny OfficeJet 100 Mobile Printer is aimed at those who move around a lot. It needs no external power as it is equipped with a 2100 mAh Li-ion battery. Apart from the regular USB 2.0 and PictBridge interface, the printer features Bluetooth connectivity, enabling one to print documents and photos wirelessly. Prints are obtained at a maximum resolution of 600 x 600 dpi in monochrome, while color photos can be printed at a resolution of 4800 x 1200 dpi. The printer sports a rugged build with a matte-finished exterior. The printer's lid, when opened up, doubles

up as a 50-sheet paper tray and the paper output door automatically pops open when powered on. The control panel comprises only of power, paper feed, cancel, and Bluetooth buttons. The manufacturer states this printer can print at maximum draft speeds of 22 pages per minute in monochrome and 18 pages per minute in color, but our tests resulted in 16 pages per minute and 13 pages per minute respectively. This printer turns out 4x6-inch borderless photos in just over two minutes, but the print quality was quite below average. 

- Francis D'sa

PC CASE

THERMALTAKE CHASER MK-1

VERDICT: A great-looking cabinet with excellent airflow and easy installation.

FOR: Brilliant design, hard drive dock, front USB 3.0, eSATA ports, great cooling.

AGAINST: None.

The chiselled design on the MK-1 tells you it is inspired by an alien ship. When you remove the front and top bezels and slide out the side panel, you'll see that this case has been designed well. A 200 mm LED exhaust fan is fitted on the top, and another one has been fitted on the front for pulling in air. Even the 5.25-inch bay covers have sponge lining as filters. This cabinet can house four 5.25-inch drives and six 3.5-inch or 2.5-inch hard drives. To install hard drives, you have to fit them into removable trays, connect the cables and slide them into place. The power supply sits at the bottom. Ventilation is provided for the PSU intake fan which

faces downwards, and the dust filter can be removed for cleaning. To reduce cable clutter and facilitate airflow, cutouts are provided for routing power and data cables behind the motherboard. I/O ports are housed on the front top area. A key feature is the provision of a hard drive dock; slide a naked 2.5-inch or a 3.5-inch drive into it for instant access. Buttons for regulating fan speed and changing LED color, the USB 2.0 and 3.0 ports and a single eSATA port are placed on either side of the hard drive dock. The build quality of the case is top notch and installing expansion cards, optical drives and hard drives is a breeze. 

- Anand Tuliani



SPECIFICATIONS

Rs 9,900

www.thermaltake.com

Dimensions (WxHxD): 237 x 568 x 581.6 mm; Form factor: Full Tower ATX; Drive bays (accessible): 4x 5.25-in and 1x 3.5-in; Drive bays (hidden): 6x 3.5-in/2.5-in; Cooling system: 200 mm top, 200 mm front and 140 mm rear; I/O ports: 2x USB 3.0, 2x USB 2.0, 1x eSATA and audio (headphone and mic).

CONTACT	Thermaltake Technology
PHONE	886-2-8787-5788
EMAIL	info@thermaltake.com

RATINGS

BUILD QUALITY	★★★★★
EASE OF INSTALLATION	★★★★★
FEATURES	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★

GRAPHICS CARD

ASUS MATRIX GTX 580 PLATINUM



FOR: Excellent cooling, good overclocking capability, lots of bonus features.

AGAINST: Expensive.

Graphics card manufacturers come up with great looking custom coolers that also deliver and offer factory-overclocked settings. Asus goes overboard with enthusiast-class products and concocts incredibly high-end models such as this variant of the GTX 580 called the Matrix GTX 580 Platinum, which belongs to their renowned Republic of Gamers brand. This card is special in many ways, the most prominent being the design. It utilizes a triple-slot design to house a large dual-fan cooler. The fans cool a pair of heat sinks that draw heat from the GPU. The heat is dissipated to the fins via five 8 mm thick copper heat pipes that come in direct contact with the GPU. Another thick heat sink dissipates heat from the 19-phase power circuitry, which according to Asus delivers a 15 percent power boost, 2.5 times longer lifespan, and 35 degrees C cooler operation. What makes the card special are instant-access buttons for over-volting and 100 percent fan speed override. These, along with the bundled utility called GPU Tweak, allow overclocking the card with great ease. GPU Tweak monitors the voltages, temperature and fan speed in real time and also allows writing the values of the core speed, memory speed, fan speed and core voltage to the card's BIOS. In case of failure, the settings can be reverted back to defaults by pressing the Safe Mode button on the rear panel of the card. The card draws power from a pair of 8-pin PCIE power connectors. Asus

has provided two adapters that convert two 6-pin PCIE connectors to a single 8-pin connector. To the right of the power connectors, you'll find check points for measuring the voltage of the GPU, memory, PLL and +12 V rail. The rear panel of the card has a pair of dual-link DVI ports, HDMI output and DisplayPort. Cables for DisplayPort and HDMI would have certainly added a lot of value, but all you get is a DVI-to-D-sub adapter and an SLI bridge. The Matrix GTX 580 Platinum comes with the GPU factory-overclocked to 816 MHz, which is 5.7 percent or 44 MHz higher than the stock speed of 772 MHz. The memory is left running at stock speed. Such a small bump in the core speed didn't result in a massive performance boost. The 3DMark 11 score of 5918 points was almost similar to that of a stock GTX 580. Also, there was no fps boost in the game benchmarks. At 1920x1080, Crysis Warhead ran at 44 fps (Enthusiast, 4xAA) and Mafia 2 ran at 37.1 fps (High with AA and max Physx). The true potential of this card can be seen when you overclock it. We pushed the GPU speed to 960 MHz and the memory to 1100 MHz – a good 24.3 percent! 3DMark 11 score went up by 16 percent to 6876 points and the frame rates in all the game benchmarks went up by 6 to 8 fps. The average price of a GTX 580 is Rs 28,000, and this card demands a premium of Rs 4,500 for all the additional goodness it offers. 

- Anand Tuliani



The Safe Mode button comes to rescue when overclocked values result in boot failure.

VERDICT

THE KING OF THE GTX 580 GRAPHICS CARDS.

SPECIFICATIONS

Rs 32,435

www.asus.in

GPU: Nvidia GeForce GTX 580; Memory: 1536 MB GDDR5; Memory bus width: 384-bit; Speed: (Core | Memory): 816 MHz | 1002 MHz; Video outputs: Dual-link DVI, HDMI and DisplayPort.

CONTACT	ASUS Technology
PHONE	022-67668800
EMAIL	reachus@asus.com

RATINGS

FEATURES	★★★★★
PERFORMANCE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★



GRAPHICS CARD

GALAXY GEFORCE GTX 580

VERDICT: Rest assured; this card won't overheat!

FOR: HDMI cable included, great cooling, silent.

AGAINST: None.

There's only one thing that sets the Galaxy GTX 580 apart from the regular GTX 580 cards – the triple fan cooler. Even more interesting is the design of the heat sink that sits on the massive GPU. It comprises of three sections – one big chunk on top of the GPU, a smaller one towards the rear panel, and the biggest one on the other side of the GPU. The three are connected by five copper heatpipes that run through the block of copper that is slapped on the GPU. The fans cool the entire heatsink, but in effect, this card uses a triple slot design. Additional heat sinks are used to dissipate heat from the power phases and a thick metal plate is clamped to the bottom for additional

heat dissipation. This card runs at stock speeds. The GPU and 1536 MB of GDDR5 memory are clocked at 772 MHz and 1002 MHz respectively. The rear panel has a pair of dual-link DVI ports and a mini-HDMI port. The performance is identical to that of a regular GTX 580 card, except that it runs a lot cooler. It scored 24355 points in 3DMark Vantage and 5917 points in 3DMark 11. A whopping 42 fps in Crysis Warhead in Enthusiast mode with 4xAA, and 37 fps in Mafia II (High, max PhysX and AA) and Unigine Heaven 2.1 (4xAA and Extreme Tessellation) says it all. This is an excellent option because it doesn't command an exorbitant premium for its cooler and bundled HDMI cable. 📺

- Anand Tuliani

SPECIFICATIONS

Rs 27,000

www.bigbyteindia.com

GPU: Nvidia GeForce GTX 580; Memory: 1536 MB GDDR5; Memory bus width: 384-bit; Speed: (Core | Memory): 772 MHz | 1002 MHz; Video outputs: Dual-link DVI and mini-HDMI.

CONTACT	Big Byte Corporation
PHONE	022-23894800
EMAIL	sales@bigbyteindia.com

RATINGS

FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

GRAPHICS CARD

XFX RADEON HD 6770

VERDICT: Old wine in a new bottle!

FOR: Efficient cooler, heat sink for voltage regulators.

AGAINST: Nothing new to offer, slightly noisy at full load.

At the heart of the Radeon HD 6770 is a GPU with 800 stream processors clocking in at 850 MHz. The card has 1 GB of GDDR5 memory which runs at 1.2 GHz and connects to the GPU via a 128-bit wide bus, making it suitable for entry-level gaming machines. The design has been kept simple, with a circular finned heatsink for the GPU and a separate smaller heatsink for the power phases at the end of the card. It draws power from a single 6-pin PCIe power connector. The rear panel has D-sub, DVI and HDMI 1.4a video outputs, which are common features of mainstream cards. The performance is comparable to the current generation GeForce GTX 550 Ti;

the latter being slightly more powerful. This card scored 10117 points in 3DMark Vantage and 2824 points in 3DMark 11. Gaming at full HD is possible but with AA kept low or disabled. At 1920x1080, Crysis Warhead ran at 34.7 fps in Gamer mode with no AA. Our test rig also ran Mafia 2 with the PhysX set to medium on GTX 550 Ti, whereas the AMD GPU doesn't support PhysX, causing a CPU bottleneck. If your budget is under Rs 10,000, our recommendation is the GTX 550 Ti. If you can't stretch beyond Rs 8,000, get the Radeon HD 5770, which is still retailing for Rs 7,500. Tell yourself it's the HD 6770 and you'll be more than happy! 📺

- Anand Tuliani



SPECIFICATIONS

Rs 13,990

www.rptechindia.com

GPU: AMD Radeon HD 6770; Memory: 1024 MB GDDR5; Memory bus width: 128-bit; Speed: (Core | Memory): 850 MHz | 1200 MHz; Video outputs: D-sub, DVI and HDMI.

CONTACT	Rashi Peripherals
PHONE	022-40470909
EMAIL	response@rptechindia.com

RATINGS

FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆



INPUT DEVICE

MICROSOFT ARC
TOUCH MOUSE

VERDICT: Extremely portable mouse for travelling users.

FOR: easy on/off control, touch sensitive programmable scroll pad

AGAINST: Not very comfortable for prolonged use.

SPECIFICATIONS

Rs 3,600

www.microsoftstore.co.in

Dimensions (WxHxD): 58.8 x 130 x 15 mm; Weight: 90 g;
Resolution: 1000 dpi; Acceleration: 150 ips; Tracking speed:
72 ips; Buttons: 3, Scroll pad: programmable.

CONTACT	Microsoft
PHONE	NA
EMAIL	NA

RATINGS

BUILD QUALITY	★★★★★
ERGONOMICS	★★★★★
FEATURES	★★★★★
PERFORMANCE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★

The most important features of a portable mouse are its size and form factor and the Microsoft Arc Touch excels in both respects. With its sleek, compact design, the mouse can slip into any pocket. Even the wireless USB receiver is tiny and conveniently sticks to a magnet on the back. The touch sensitive scroll pad comes preset with page scrolling shortcuts, which you can reassign to your own commands. The slim build does affect its usability, however; the mouse is not very ergonomic and it takes some getting used to. It does not provide support for the entire palm and fingers tend to slip under the arch, so it is not suited for long periods of use. The lack of a solid base also makes it difficult to use on uneven surfaces. ❌

- Kushal Mamooowala



INPUT DEVICE

ROCCAT KOVA[+]

VERDICT: Ergonomic gaming mouse that is great for enhanced gaming.

FOR: Programmable buttons, macros and customizable LED lights.

AGAINST: None.

SPECIFICATIONS

TBA

www.roccat.org

Dimensions (WxHxD): 65 x 38 x 120 mm; Weight: 90 g;
Resolution: 400 - 3200 DPI; Acceleration: 30 g; Tracking speed:
130 ips; Buttons: 7, 5 x programmable.

CONTACT	Mihira Tech Enterprise
PHONE	9893086869
EMAIL	info@mihirtech.com

RATINGS

BUILD QUALITY	★★★★★
ERGONOMICS	★★★★★
FEATURES	★★★★★
PERFORMANCE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★

The Roccat Kova[+] is the updated version of the Kova. Its EasyShift[+] button is the equivalent of a [Shift] key on the keyboard, and holding it and pressing another mouse button allows you to assign a second function to it. Almost every aspect of the mouse is customizable, from the DPI settings to the color of the LED lights. The software package allows you to save multiple profiles and also adjust the scroll speed, button functions and sensitivity. A neat sound feedback announces any settings changes that have been made on-the-fly. The build is ergonomic and symmetrical, making it suitable for both left and right-handed users, and the surface is coated with a rubberized grip for long sessions of gaming. ❌

- Kushal Mamooowala



LAPTOP COOLER

COOLER MASTER
INFINITE EVO

VERDICT: Well designed cooling pad for desk usage.

FOR: 3-port USB hub, speed-adjustable fans.

AGAINST: No adjustment for height or inclination, no adapter provided.

SPECIFICATIONS

Rs 2,800

www.coolermaster.in

Dimensions (WxHxD): 410 x 61 x 310 mm; Weight: 1.2 kg;
Fans: 2 x Wheel-blower fans; Features: 3 port USB hub, fan
speed control.

CONTACT	Acro Engineering Company
PHONE	011-40525645
EMAIL	marcom_in@coolermaster.com

RATINGS

BUILD QUALITY	★★★★★
FEATURES	★★★★★
PERFORMANCE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★

Most people believe that cooling pads are only for laptops that overheat. In most laptops, however, only the CPU is cooled by the heat-sink. The Infinite EVO is an innovative cooling pad suited for laptops ranging from 12 to 17-inches in size, and provides additional cooling for such components. It packs two 80 mm fans that are silent and efficient, and also offers some other useful features like a 3 port USB hub, fan speed control and cable management. The cooling pad can be powered by USB or a power adapter, but the adapter isn't provided. The pad itself is stylish, with a curved aluminium surface for better cooling and has a comfortable inclination for using your laptop at a desk. However, it is too large for portability. ❌

- Kushal Mamooowala



HARD DISK

HITACHI DESKSTAR 3 TB

VERDICT: Perfect for those who need high capacity storage in a NAS, external case or file server.

FOR: High capacity; good performance.

AGAINST: Quite heavy.

SPECIFICATIONS

Rs 16,000

www.hitachigst.com

Form-factor: 3.5 in; Capacity: 3 TB; Spindle speed: 7200 rpm; Buffer cache: 64 MB; interface: SATA 6 GB/s.

CONTACT	Cyberstar India
PHONE	9972580114
EMAIL	lalit.sudrik@cyberstar.com

RATINGS

FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

The Deskstar 7K3000 is a 3.5-inch internal desktop hard drive featuring 64 MB cache buffer, with a rotational speed of 7200 rpm. It is the first to support a 6 GB/s SATA interface, which helps boost the overall performance. The drive heavier than conventional 2.5-inch storage drives due to the five platters and 10 read/write heads within. The hard drive platters have an areal density of 411 gigabits per square inch and each platter has a capacity of 600 GB. Windows XP users might not be able to benefit from this hard drive due to XP's limitations of the storage capacity size, while Vista and 7 users will need to convert the drive to GPT standard before initial use. Real world testing of the hard drive using a 4 GB single file and assorted files show that the drive has average write speeds of 82 MB/s and read speeds of 99 MB/s.

- Francis D'sa



SSD

PLEXTOR PX-256M2S

VERDICT: A high-performance solid state drive with a good price tag.

FOR: Performance, SATA 6 Gbps interface.

AGAINST: None.

SPECIFICATIONS

Rs 27,500

www.plextor.com

Dimensions (WxHxD): 69.85 x 9.5 x 100 mm; Form-factor: 2.5-inch Capacity: 256 GB; Interface: SATA 6 GB/s; Buffer cache: 128 MB DDR3.

CONTACT	Philips & Lite on Digital Solutions
PHONE	886-2-8798-2798
EMAIL	gt.hung@pldsnet.com

RATINGS

BUILD QUALITY	★★★★☆
FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

The Plextor 256 GB 2.5-inch SSD falls under its M2 series, and features a sleek brush-finished aluminum shell. It boasts of 128 MB DDR3 cache buffer, which helps reduce seek, read and write times. It also supports the SATA 6 Gbps interface for higher performance. Our real-world tests resulted in read/write scores of 154 MBps and 224 MBps with assorted files, and 219 MBps and 222 MBps using a single 4 GB file. Synthetic scores using HDtack reveal average read/write speeds of 220 MBps and 188 MBps. Bundled along with the drive is Acronis True Image for cloning and backups. Though this drive is recommended for high performance rigs, the price tag might put off many users. Still, comparing the performance of the PC-256m2S to similar capacity SSDs presently available in the market, it is definitely worth the price.

- Francis D'sa



WIRELESS SD CARD

TREK FLU CARD PRO

VERDICT: A simple yet powerful add-on to any digital camera to transfer images wirelessly.

FOR: Convenience, Wi-Fi N, 8 GB of storage.

AGAINST: User manual not bundled.

SPECIFICATIONS

Rs 6,999

www.treak2000.com.sg

Capacity: 8 GB; Networking: Wireless 802.11 b/g/n; Modes: photo sharing P2P, online server storage.

CONTACT	Gupu Siva
PHONE	9448352893
EMAIL	gupu@treak2000.com.sg

RATINGS

BUILD QUALITY	★★★★☆
FEATURES	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

The Flu Card Pro's size is no different from that of a standard SD card. Once inserted into a camera, press the play/preview button on the camera and you will find four control images preloaded on the card. The 'Receiver' and 'Sender' images trigger commands for photo sharing between two devices that use Flu Cards. 'Settings/Review' is for configuration of access points and FTP servers, and 'Server Upload' is for uploading images directly to an FTP server. To access these controls, delete the respective image; the controls in the SD card detect that as a command to trigger the mode it has to operate on. The SD card contains a Wi-Fi N radio for networking, a shake sensor for configuration, and a buzzer for user feedback. Instructions on the Trek website help you to establish a regular network or ad-hoc connectivity between two devices.

- Francis D'sa

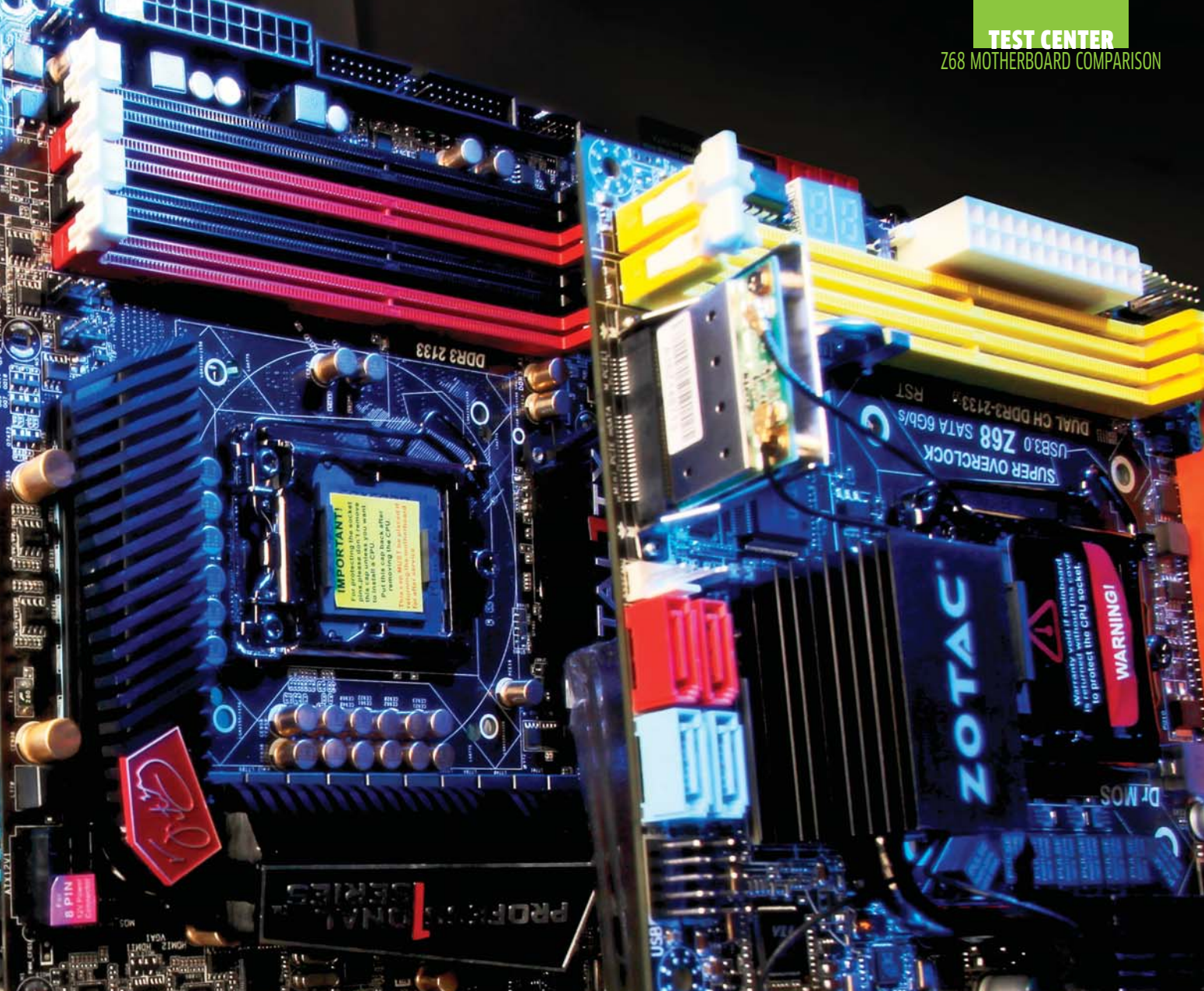
HIGHWAY Z68

Today's fastest desktop CPUs finally have a worthy road to run on. We test the first Z68 motherboards from every leading manufacturer.

BY JAMSHED AVARI, ANAND TULIANI AND FRANCIS D'SA



CONCEPT: Joshua Navalkar
PHOTOGRAPH: Neha Mithbawkar
ASSISTED BY: Saloni Agarwal



Six months late or right on time? The Z68 chipset's very existence solves the biggest problem we had with Intel's Sandy Bridge generation platforms, which was that customers had to forego the CPU's fantastic integrated graphics acceleration features if they wanted to use high-performance graphics cards or tweak advanced overclocking settings. Those who bought a P67 motherboard for use with multiple graphics cards or unlocked CPUs found themselves cut off from one of the platform's most highly touted features, integrated video acceleration. Those who bought an H67 board were limited in terms of tweaking and upgrading. To make things even worse, the expensive K-series CPUs with unlocked multipliers are perfectly suited to P67 boards, but you pay more for a beefier graphics core, which you can't use!

Unifying the two camps, the Z68 is Intel's most important chipset launch. We're already seeing companies phasing out P67 boards, with Z68s taking over as the best choices for enthusiasts. The graphics problem is solved through software. Lucid—the company best known for crafting ways in which AMD and Nvidia cards can be clubbed with each other—has now created a virtualization scheme called Virtu, which allows a system to switch between integrated graphics and a discrete card. The other brand new feature is Smart Response, a Windows-based method of allocating space on an SSD to act as a high-speed cache. Given the high cost such a configuration would involve, Smart Response is designed to let users buy cheap, low-capacity SSDs to make Windows boot faster and speed up frequently used programs.

It's important to note that although Z68 includes all these capabilities, not all motherboards have implemented them especially the earliest launched models. Some boards leave out Virtu and have no graphics outputs, rendering integrated graphics support useless. On the other hand, some have jumped in with mSATA SSDs preinstalled, perfect for running Smart Response out of the box. Other cool things to watch out for in this generation are multiple USB 3.0 ports, 6 Gbps SATA, and PCIe 3.0 interconnects.

Intel isn't likely to change their CPUs' physical sockets again anytime soon, which means current-gen boards could last through several upgrade cycles. Early Sandy Bridge adopters have every right to feel a little miffed, but the good news is that they'll be able to upgrade way down the line and still not have to buy all-new parts.

TEST PROCESS

FEATURES: Here we log the specifications of each subsystem (memory, graphics and storage). We begin by noting the type and quantity of system memory supported. Later, the different types of supported video outputs are noted: HDMI and DisplayPort are given more points. Motherboards featuring a higher number of expansion slots score better as well. We also awarded points to motherboards that feature an mSATA connector and those which bundle a suitable SSD for the Smart Response feature. Some motherboards also have on-board Bluetooth and Wi-Fi modules. We considered the number of USB2.0, USB 3.0 and FireWire ports both on the rear panel as well as in the form of on-board headers. Other common features such as the presence of all-solid capacitors and the number of CPU power phases were noted and points were distributed accordingly. We also examined the type of audio ports available on the rear panel, especially the type of S/PDIF port. Finally, we examined the BIOS and noted the presence of features such as automatic overclocking (OC), profile backups, use of a UEFI, and BIOS flashing facilities. These also include the presence of a physical overclocking switch. We did not consider the package contents since most boards more or less came with the same accessories.

PERFORMANCE: This is the most important factor when it comes to tasks such as file compression, video encoding, and gaming. Boards that can handle intense jobs like file compression, ray tracing, and video encoding in the shortest time have best chance of bagging our Best Performance award. To ensure that the boards are given a fair chance, the speed and timings of the RAM on all the motherboards were set to 1333 MHz and 7-7-7-20 respectively with everything else kept at default values in the BIOS. We tested the performance of each motherboard using the following hardware:

Processor : Intel Core i7-2600k
RAM : Corsair XMS31600C9DHX 4 GB DDR3 kit
Hard drive : Plextor PX-256M2S 256 GB SSD
Graphics card : AMD Radeon HD6870
Power Supply : Cooler Master Silent Pro Gold 800 Watts

The performance section comprises of three main sections:

Synthetic Tests: Each board was tested using PCMark Vantage and 3DMark 11. Each of these tests simulates real-world scenarios to evaluate the performance of the chipset, processor, memory and graphics. We ran SiSoft Sandra 2011 to evaluate processor multimedia, memory bandwidth and HD video transcoding.

Real World Tests: Real world tests will give you an exact picture of how each rig performs in various tasks. In these tests, we look at the overall time taken to perform the following tasks:

File compression: Time taken to compress 100 MB of multiple files to 7.zip format using the Ultra preset 256-bit encryption.

Video encoding: Time taken to convert a 1 minute MPEG to H.264 format (2nd pass).

Ray tracing: Time taken to ray trace an 800x600 scene with AA thrown in.

Gaming: We ran the built-in benchmarks in Crysis Warhead and Unigine Heaven at full HD resolution (1920x1080) and noted the frame rates accordingly.

LAYOUT: As placement of the RAM slots, SATA ports, on-board headers and power connectors are vital for cable management and airflow inside a PC case, these are crucial points. More points were given to boards that had neatly placed components which do not get in the way of large graphics cards or power cables. Boards with SATA ports placed flat earned extra points. Clearance around the CPU socket was also taken into consideration, since the CPU fan should have room for proper airflow. Build quality is generally not a parameter due to the uniform way in which motherboards are manufactured, but the quality of the heatsinks provided for the voltage regulators and the chipset is still a variable that we rated.

WARRANTY: Last but not least, the warranty offered by the manufacturer is vital. As motherboards can fail for a variety of reasons, robust warranty and customer support infrastructure is essential. Boards with a longer warranty period are awarded more points. Here, all manufacturers offered the same warranty period, three years, and hence all boards received the same score.

Now that you have an idea of how each motherboard was evaluated, it is time to look at the scores and see how they fared. Flip over to the next page for the scores and winners of this roundup.

PERSONAL TAKE



ANAND TULIANI
anand.tuliani@chip.in

If you're building a high performance PC or a gaming machine based on the latest platform, you'll need to set aside at least Rs 13,000 for a good Intel Z68 motherboard. At this price, you should get a whole lot many features. Video output on the rear panel with Lucid Virtu support is a must. If you want to build a gaming PC, support for SLI would be nice. Additional features such as built-in Bluetooth, an automatic OC button and extra USB 3.0 ports are good bonus features to have. Also, pay attention to the layout of the motherboard—refer to the scores and also check for high-resolution photos on the manufacturer's website. For me, the ideal choice would be the Asus P8Z68-V, which offers most of features I've highlighted. The P8Z68-V Pro is only worth the extra Rs 1,000 if you need FireWire and two extra SATA 6 Gb/s ports.



FRANCIS D'SA
francis.dsa@chip.in

As the testing of the motherboards began, my eyes were constantly fixed on Zotac's Z68-ITX Wi-Fi motherboard. The motherboard sports a miniscule form-factor, yet manages to keep up with other motherboards in terms of performance. The Z68-ITX is an ideal choice for those who want to build a super-compact HTPC, in which case they'll need the smallest performance-oriented motherboard available. Zotac offers a number of mini-ITX models; this one features a mini-PCIe Wi-Fi N module mounted directly on the motherboard, and additionally sports two Ethernet ports, perfect for media streaming at home. Also featured here are two HDMI outputs and one mini-DP port for multi-monitor support. Though this board is tiny, it can also be the foundation of a powerful gaming rig by simply adding a graphics card. The mini-PCIe slot is compatible with mSATA modules, so you can also swap out the Wi-Fi for a fast Smart Response cache to increase performance.

The Asus P8Z68 Deluxe emerged as the best performer because it offers a rich feature set, stellar performance and excellent layout of components. The P8Z68 series has three variants: V, V Pro and Deluxe. Both the P8Z68-V and V Pro offer D-sub, DVI and HDMI outputs, SLI support, four USB 3.0 ports and integrated Bluetooth module. However, the V Pro variant has two additional SATA 6 Gb/s ports and on-board headers for FireWire. The P8Z68 Deluxe offers all the features of the V Pro, but doesn't have any video outputs on the rear panel. Instead it has two additional USB 2.0 ports, an extra eSATA port, a FireWire port, dual Gigabit Ethernet ports and coaxial S/PDIF output. Also, a 7-segment debugging indicator has been slotted in for diagnosing errors during POST. The type and number of expansion slots has been kept the same in all the three models—two PCIe x1, three PCIe x16 and two PCI. So essentially, Asus has just added and swapped some components to offer feature sets for different user requirements and the price difference between variants isn't much.

The P8Z68 Deluxe is designed for enthusiasts and gamers who want rock-solid performance. Pick this board if you don't care for video outputs via the on-die GPU, but would still like to take advantage of QuickSync Video technology that allows incredibly fast transcoding. The board supports Virtu in d-Mode, which allows using Sandy Bridge's QuickSync feature despite having a discrete graphics card installed.

As the scores, this board is clearly an ace performer. Overclocking is easy thanks to the intuitive interface of the UEFI BIOS. Digital VRMs and a 16-phase power design deliver precise voltage and reduce EM interference while overclocking. Those who aren't well-versed can use the onboard OC switch which automatically calculates optimal overclocked values for the CPU and memory. The board also ships with a USB 3.0 bracket that fits into a 3.5-inch floppy drive bay.

VERDICT: A feature-rich board for gamers and power users. Recommended!

FOR: Integrated Bluetooth, excellent feature set, bundled USB 3.0 bracket.

AGAINST: None.

If the Best Value award were to be given to a motherboard without considering the layout, the Zotac Z68-ITX would have definitely won instead of the Gigabyte Z68AP-D3. The price difference is a marginal Rs 200 and the Zotac model's feature-set is way better, but it lost out simply because of its size, which slightly limits its expansion possibilities. A good look at the table of scores reveals that the Zotac entrant ranked second best in sheer performance and would have been close enough to bag the Best Value award if the Gigabyte Z68AP-D3 had not been present. Well, the Gigabyte Z68AP-D3 won this roundup's value award, and it deserves to due to its low price. Except for an average quality (and poorly mounted) heatsink, the board's highlight is a very good layout. It also has a large number of expansion slots, which is beneficial for a multi-GPU rig and for installation of additional expansion cards. The rear panel shows a very small set of features, with just two USB 3.0 ports, four USB 2.0 ports and single HDMI interface apart from the other standard ports. Also, unlike the rest of the contenders, this

motherboard features 6-channel audio instead of 8-channel. The Z68AP-D3 unfortunately doesn't feature a modern UEFI BIOS or have any options to save overclocking profiles. The motherboard also does not feature an OC button. This board seems good for building a simple home gaming rig or an HTPC. But on the other hand, its most unique feature is that its overall performance can be further enhanced by adding an SSD module to the mSATA connector. If you are looking for a motherboard on a budget and don't plan on any extreme gaming, we would advise opting for the Zotac Z68-ITX instead of this one because of its better performance and richer feature-set. But if you are concerned about the board's layout and might ever consider upgrading to a multi-GPU setup, the Gigabyte Z68AP-D3 will prove to be a better choice in the long run.

VERDICT: A good motherboard for building a decent multi-GPU gaming rig at a budget price.

FOR: Good layout, mSATA connector.

AGAINST: No UEFI BIOS, 5.1-channel audio, only HDMI video output.

ASUS P8Z68 DELUXE



SPECIFICATIONS

Rs 16,550

Memory support: **up to 32 GB**; Video ports: **None**; Expansion slots: **2 x PCIe x16, 2 x PCIe x1, 2 x PCI**; SATA: **4 x 3 Gb/s, 4 x 6 Gb/s**; USB: **12 x USB 2.0, 4 x USB 3.0**; Audio: **7.1-channel**

CONTACT ASUS Technology
PHONE 1800-209-0365
EMAIL reachus@asus.com

RATINGS

BUILD QUALITY	★★★★★
FEATURES	★★★★★
PERFORMANCE	★★★★★
LAYOUT	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★

GIGABYTE Z68AP-D3



SPECIFICATIONS

Rs 9,800

Memory support: **up to 32 GB**; Video ports: **1 x HDMI**; Expansion slots: **2 x PCIe x16, 3 x PCIe x1, 2 x PCI**; SATA: **4 x 3 Gb/s, 2 x 6 Gb/s**; USB: **10 x USB 2.0, 2 x USB 3.0**; Audio: **5.1-channel**; mSATA connector: **yes**.

CONTACT GigabyteTechnology
PHONE 022-40633218
EMAIL anilkumarr@gigabyte.in

RATINGS

BUILD QUALITY	★★★★★
FEATURES	★★★★★
PERFORMANCE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★



SpecScan

1



2



3



NAME	ASUS P8Z68 DELUXE	GIGABYTE Z68X-UD7-B3	ASROCK FATAL1TY Z68 PRO GEN3
Contact	ASUS Technology	GigabyteTechnology	Jupiter International
Phone	1800-209-0365	022-40633218	1800-345-3030
E-mail	reachus@asus.com	anilkumarr@gigabyte.in	tirthankar.guha@jil-jupiter.com
Price*	Rs. 16,550	Rs. 23,500	Rs. 14,800
OVERALL			
Features (40%)	70	68	65
Layout (15%)	99	100	100
Performance (40%)	100	92	94
Warranty (5%)	100	100	100
Overall	88	84	84
Value For Money	★★★★☆	★★★★☆	★★★★☆
FEATURES			
Memory: Slots Max speed Max capacity	4 2200 MHz 32 GB	4 2133 MHz 32 GB	4 2133 MHz 32 GB
Video ports	None	None	DVI, D-sub, 2 x HDMI
Expansion slots: PCIe x16 PCIe x1 PCI	3 2 2	3 1 2	3 2 2
SATA: 3 Gb/s 6 Gb/s	4 4	4 4	6 4
Multi-GPU support	CrossFireX + SLI, 8x mode	CrossFireX + SLI, 8x mode	CrossFireX + SLI, 8x mode
Audio	7.1-channel	7.1-channel	7.1-channel
USB 2.0: Rear panel Via headers	8 4	4 4	4 4
USB 3.0: Rear panel Via headers	2 2	6 4	4 2
FireWire: Rear panel Via headers	1 1	2 0	1 1
S/PDIF	Co-axial, Optical	Co-axial, Optical	Optical
Ethernet ports	2 x Gigabit	2 x Gigabit	2 x Gigabit
eSATA All solid capacitors CPU power phases	2 ✓ 16	2 ✓ 24	1 ✓ 18
On-board: Wi-Fi Bluetooth	✗ ✓	✗ ✗	✗ ✗
Bundled mSATA SSD for Smart Response	✗	✗	✗
mSATA slot OC Button	✗ ✓	✗ ✗	✗ ✗
7-segment debugger Lucid Virtu	✓ ✓	✗ ✓	✗ ✓
Profile backup Built-in BIOS flashing	✓ ✓	✓ ✓	✓ ✓
Cables and brackets: SATA USB 2.0 USB 3.0	6 ✗ ✓	4 ✓ ✓	6 ✗ ✓
LAYOUT (OUT OF 5)			
Clearance around CPU socket	4.5	5	5
Placement: 12 V power Main power	5 5	5 5	5 5
DIMM SATA Headers	5 5 5	5 5 5	5 5 5
Quality of heatsink	5	5	5
PERFORMANCE			
Synthetic			
SiSoft Sandra 2011			
Aggregate Multimedia Performance	191.4 MPix/s	171.35 MPix/s	175.81 MPix/s
Aggregate Memory Performance	18.15 GB/s	18 GB/s	18 GB/s
HD TV Transcoding: H.264 720p @ 4Mbps	1 GB/s	954 KB/s	967 KB/s
PCMark Vantage: Overall Mem Gaming Productivity HDD	22284 14286 23355 25094 40687	19373 12385 20276 19979 29295	19608 12658 20874 21665 29732
3DMark 11: Overall GPU Physics Combined	4504 4136 9017 4161	4450 4117 8243 4111	4486 4137 8517 4169
CineBench R11 7.Zip benchmark	7.55 Pts 21726 MIPS	6.91 Pts 19788 MIPS	6.89 Pts 20465 MIPS
Real World			
File compression Video encoding Ray tracing	28 sec 29 sec 15.37 sec	31 sec 32 sec 17.15 sec	30 sec 31 sec 16.82 sec
Gaming			
Crysis Warhead (1920x1080, Enthusiast)	36.65 fps	36.42 fps	36.58 fps
Unigine Heaven (1920x1080, 4xAA)	27.9 fps	28.1 fps	27.8 fps
WARRANTY			
Warranty period	3 years	3 years	38 months

* Prices are indicative and are subject to change, taxes extra



ASUS P8Z68-V PRO

ASUS Technology
1800-209-0365
reachus@asus.com
Rs. 13,550

ASUS P8Z68-V

ASUS Technology
1800-209-0365
reachus@asus.com
Rs. 12,450

GIGABYTE Z68XP-UD3P

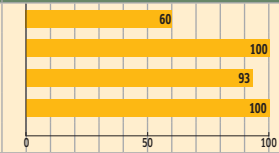
GigabyteTechnology
022-40633218
anilkumarr@gigabyte.in
Rs. 13,300

MSI Z68A-GD65

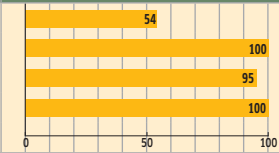
MSI India
1800-200-0004
technicalindia@msi.in.com
Rs. 18,500

GIGABYTE Z68XP-UD3-iSSD

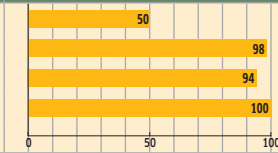
GigabyteTechnology
022-40633218
anilkumarr@gigabyte.in
Rs. 16,250



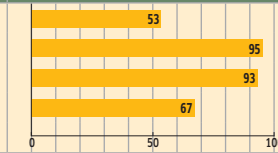
81
★★★★★



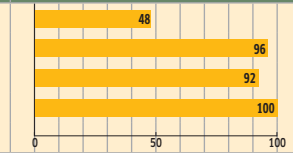
80
★★★★★



77
★★★★★



76
★★★★★



75
★★★★★

4 | 2200 MHz | 32 GB

DVI, D-sub, HDMI

3 | 2 | 2

4 | 4

CrossFireX + SLI, 8x mode

7.1-channel

6 | 6

2 | 2

0 | 2

Optical

1 x Gigabit

1 | ✓ | 16

✗ | ✓

✗

✗ | ✓

✓ | ✓

✓ | ✓

4 | ✗ | ✓

4 | 2200 MHz | 32 GB

DVI, D-sub, HDMI

3 | 2 | 2

4 | 2

CrossFireX + SLI, 8x mode

7.1-channel

6 | 6

2 | 2

NA

Optical

1 x Gigabit

1 | ✓ | 16

✗ | ✓

✗

✗ | ✓

✓ | ✓

✓ | ✓

4 | ✗ | ✗

4 | 2133 MHz | 32 GB

HDMI

2 | 3 | 2

4 | 4

CrossFireX + SLI, 8x mode

7.1-channel

8 | 6

2 | 2

1 | 1

Optical

1 x Gigabit

✗ | ✓ | 16

✗ | ✗

✗

✗ | ✗

✗ | ✓

✓ | ✓

4 | ✗ | ✗

4 | 2133 MHz | 32 GB

DVI, D-sub, HDMI

2 | 3 | 2

4 | 4

CrossFireX + SLI, 8x mode

7.1-channel

4 | 6

2 | 2

NA

Co-axial, Optical

1 x Gigabit

✗ | ✓ | 6

✗ | ✗

✗

✗ | ✓

✓ | ✓

✗ | ✓

4 | ✗ | ✓

4 | 2133 MHz | 32 GB

HDMI

2 | 3 | 2

4 | 4

CrossFireX + SLI, 8x mode

7.1-channel

8 | 6

2 | 2

1 | 1

Optical

1 x Gigabit

✗ | ✓ | 8

✗ | ✗

20 GB

✓ | ✗

✗ | ✓

✗ | ✓

4 | ✗ | ✗

5

5 | 5

5 | 5 | 5

5

5

5 | 5

5 | 5 | 5

5

5

5 | 5

5 | 5 | 5

4

4

4 | 5

5 | 5 | 5

5

5

5 | 5

5 | 5 | 5

3

175.6 MPix/s

18 GB/s

936 KB/s

19699 | 12595 | 20949 | 21777 | 30752

4302 | 4023 | 8480 | 4157

6.92 Pts | 20098 MIPS

175.8 MPix/s

18 GB/s

972 KB/s

21129 | 13951 | 22178 | 23618 | 39979

4489 | 4141 | 8510 | 4163

6.89 Pts | 20163 MIPS

176.42 MPix/s

18 GB/s

977 KB/s

19595 | 12466 | 17897 | 20376 | 29150

4486 | 4142 | 8416 | 4166

6.92 Pts | 20275 MIPS

175.14 MPix/s

18 GB/s

946 KB/s

19727 | 12501 | 20606 | 20186 | 29668

4431 | 4076 | 8506 | 4162

6.89 Pts | 20214 MIPS

170.9 MPix/s

18.1 GB/s

930 KB/s

19133 | 12410 | 20335 | 19753 | 29082

4479 | 4136 | 8384 | 4165

6.69 Pts | 19834 MIPS

30 sec | 31 sec | 16.8 sec

30 sec | 31 sec | 16.74 sec

30 sec | 31 sec | 16.68 sec

30 sec | 32 sec | 16.77 sec

31 sec | 32 sec | 17.25 sec

36.58 fps

27.8 fps

36.52 fps

27.8 fps

36.9 fps

28.2 fps

36.4 fps

27.7 fps

36.5 fps

27.8 fps

3 years

3 years

3 years

2 years

3 years



SpecScan



NAME	ASUS MAXIMUS IV GENE-Z	MSI Z68 MA-ED55	GIGABYTE Z68AP-D3	ZOTAC Z68-ITX WiFi
Contact	ASUS Technology	MSI India	GigabyteTechnology	neoteric informatique
Phone	1800-209-0365	1800-200-0004	022-40633218	9891282522
E-mail	reachus@asus.com	technicalindia@msi.in.com	anilkumarr@gigabyte.in	tarun.kalra@neoteric.co.in
Price*	Rs. 11,950	Rs. 13,000	Rs. 9,800	Rs. 9,999
OVERALL				
Features (40%)	44	41	36	38
Layout (15%)	99	97	96	75
Performance (40%)	90	91	92	96
Warranty (5%)	100	67	100	100
Overall	73	71	71	70
Value For Money	★★★★☆	★★★★☆	★★★★★	★★★★☆
FEATURES				
Memory: Slots Max speed Max capacity	4 2200 MHz 32 GB	4 2133 MHz 32 GB	4 2133 MHz 32 GB	2 2133 MHz 16 GB
Video ports	None	DVI, D-sub, HDMI	HDMI	2 x HDMI, mini-DP
Expansion slots: PCIe x16 PCIe x1 PCI	2 0 0	2 2 0	2 3 2	1 0 0
SATA: 3 Gb/s 6 Gb/s	4 2	4 2	4 2	2 2
Multi-GPU support	CrossFireX + SLI, 8x mode	CrossFireX, 4x mode	CrossFireX, 4x mode	NA
Audio	7.1-channel	7.1-channel	5.1-channel	7.1-channel
USB 2.0: Rear panel Via headers	8 4	4 8	4 6	4 4
USB 3.0: Rear panel Via headers	2 2	3 0	2 0	2 2
FireWire: Rear panel Via headers	NA	1 1	NA	NA
S/PDIF	Optical	Optical	Optical	Optical
Ethernet ports	1 x Gigabit	1 x Gigabit	1 x Gigabit	2 x Gigabit
eSATA All solid capacitors CPU power phases	2 ✓ 12	✗ ✓ 6	✗ ✓ 6	✗ ✓ 8
On-board: Wi-Fi Bluetooth	✗ ✗	✗ ✗	✗ ✗	✓ ✗
Bundled mSATA SSD for Smart Response	✗	✗	✗	✗
mSATA slot OC Button	✗ ✗	✗ ✓	✓ ✗	✓ ✗
7-segment debugger Lucid Virtu	✗ ✓	✓ ✓	✗ ✓	✗ ✓
Profile backup Built-in BIOS flashing	✓ ✓	✗ ✓	✗ ✓	✗ ✗
Cables and brackets: SATA USB 2.0 USB 3.0	6 ✗ ✗	2 ✗ ✗	4 ✗ ✗	4 ✗ ✓
LAYOUT (OUT OF 5)				
Clearance around CPU socket	4.5	4	5	3.5
Placement: 12 V power Main power	5 5	5 5	5 5	3 5
DIMM SATA Headers	5 5 5	5 5 5	5 5 5	3.5 3 2.5
Quality of heatsink	5	5	3	5
PERFORMANCE				
Synthetic				
SiSoft Sandra 2011				
Aggregate Multimedia Performance	176.31 MPix/s	170.24 MPix/s	171.28 MPix/s	186.73 MPix/s
Aggregate Memory Performance	17.86 GB/s	18 GB/s	18.17 GB/s	18 GB/s
HD TV Transcoding: H.264 720p @ 4Mbps	961 KB/s	930 KB/s	956 KB/s	1 GB/s
PCMark Vantage: Overall Mem Gaming Productivity HDD	18642 11649 19438 19119 23993	18212 11423 19126 18789 23556	19847 12615 20748 20802 29747	19717 11971 17767 20096 23735
3DMark 11: Overall GPU Physics Combined	4493 4148 8451 4172	4483 4144 8301 4169	4488 4141 8524 4153	4456 4093 8977 4088
CineBench R11 7.Zip benchmark	6.88 Pts 20311 MIPS	6.69 Pts 19890 MIPS	6.75 Pts 19867 MIPS	7.29 Pts 21430 MIPS
Real World				
File compression Video encoding Ray tracing	37 sec 32 sec 16.6 sec	31 sec 32 sec 17.3 sec	31 sec 33 sec 17.14 sec	28 sec 30 sec 15.82 sec
Gaming				
Crysis Warhead (1920x1080, Enthusiast)	36.48 fps	36.41 fps	36.53 fps	36.2 fps
Unigine Heaven (1920x1080, 4xAA)	27.9 fps	28 fps	27.8 fps	27.7 fps
WARRANTY				
Warranty period	3 years	2 years	3 years	3 years

* Prices are indicative and are subject to change, taxes extra

One for Every Pocket

Small, light and extremely affordable: these cameras are highly capable and surprisingly cheap.

BY ANAND TULIANI AND

FRANCIS D'SA

Every year it's suspense as to what will the next generation of hardware, laptop, phones and digital cameras have in store. The current generation models are so feature rich that it becomes difficult to predict what's going to come up. But when the latest models are out, they never fail to win our hearts. The latest digital cameras don't look very different from their predecessors, but they offer improved performance and a bunch of new and exciting features. What we've been lately seeing is the shrink in form factor due to increasing use of lithium ion batteries. Some models are bulky because they still use AA batteries, while some are slim and light enough to be carried in pocket. Despite their compact form, they manage to pack large screens for comfortable viewing and a host of interesting features. Lately even entry-level models feature wide angle lenses that allow you to shoot wide landscapes with great ease. Digital cameras are also moving on to be able to shoot HD videos from standard 640x480 videos. We're not talking about expensive high-end cameras, but you can get all the features we've talked about yet, for as less as Rs 5,500. Cameras have also become more

intelligent than before – with improved image processing engines, they can automatically discern settings to capture optimal colors, details and exposure levels. So you don't necessarily need to know how white balance, aperture, shutter speed and ISO influence image quality. Simply set your camera to Auto mode or select one of the scene modes and you can rest assured you'll get a

great shot. If you want to control the parameters manually, you can resort to the program mode which allows using custom values.

In this roundup we tested 11 digital cameras priced under Rs 7,500. In addition to comparing feature sets, we tested each and every model and found out which model performs the best and the one that offers best value for money.



TEST PROCESS

The digital camera roundup was conducted on the basis of five parameters: features, build quality, ergonomics, performance and warranty.

FEATURES: To start with we noted the overall resolution of the sensor, zoom level, focal length, white balance settings, ISO speeds, shutter speed and preset scenes. We didn't give much weightage to the presence of metering and manual modes since these cameras are capable of deciding the best settings for each scene. ISO values play an important role when it comes to capturing the perfect picture. The resolution of the camera and the quality of the optics are also critical when it comes to capturing fine detail. Hence we noted the ISO settings available for each camera and awarded points accordingly. Image stabilization becomes more important when using the zoom as images tend to get blurred due to unsteady hands. Before beginning with the performance tests, package contents were checked for accessories like a bundled memory card, a software disc and a free carrying case. Cameras that came bundled with these were awarded higher points. The weightage that accounted towards features was 25 percent of the overall score.

BUILD QUALITY: Since compact digital cameras are meant to be portable and, they should be sturdy and built ruggedly enough to withstand occasional falls and knocks when on the road. Here we evaluated the quality of construction which also includes quality of parts such as the battery compartment lid and port flaps. Also since a camera should also look presentable, points were awarded to the aesthetics of each camera. No one would want to carry an ugly or bulky looking camera. The weightage that accounted towards build quality totaled to 15 percent of the overall score.

ERGONOMICS: A good camera should be designed with the user in mind.

The camera must be easy to use and navigation between various functions should be intuitive. Factors that were taken into account here were button size/spacing and the user interface of the menu system. A camera should also offer a good grip and the controls should be easily accessible. That aside, the camera should also have an interface that is easy to comprehend. Navigational aids such as directional pads, touchscreens and mode selection dials were also noted and points were awarded accordingly. The weightage that accounted towards ergonomics was to 20 percent of the overall score.

PERFORMANCE: To get a good idea of the performance of each camera we shot an indoor as well as outdoor scenes. Indoor shots were taken with the mode set to the lowest ISO as well as ISO 400, ISO 800 and ISO 1600 to test the efficiency of the camera at different ISO levels. Outdoor shots were taken with the cameras' ISO set to the minimum value. To make sure that the picture remained consistent throughout, we used a stationary tripod for all shoots. Each recorded shot was divided into four zones each to test each camera's ability to capture detail. Finally, we evaluated the overall replication of color, contrast and detail for each image produced by the cameras. A further macro range test measured the lowest distance at which the camera could focus. Since performance is a very important aspect the weightage towards performance totaled 35 percent of the overall score.

WARRANTY: Since a camera is a delicate and expensive device, it is important for it to be backed up by a robust warranty and support. For this, we logged the warranty period each manufacturer offered on its products. This section accounted for 5 percent of the overall score.

The final scores were calculated on the overall features, ergonomics, performance and warranty put together.



The chunky PowerShot A800 uses AA batteries, whereas the thinner Olympus VG-140 uses a Li-Ion cell.

PERSONAL TAKE



ANAND TULIANI
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What I would ideally want is a Canon PowerShot A800 in the shell of the Kodak EasyShare Mini—an ace performer in a pocketable form factor. Kodak got almost everything right with the EasyShare Mini. It's tiny and still very easy to use. However, photos weren't clearly exposed and the reproduction of detail was not satisfactory. Even the videos shot with it came out grainy and jittery. On the other hand, the PowerShot A800 amazed us with its brilliant performance. It doesn't have as many features as some of the other models but the shots it delivered were outstanding, with excellent reproduction of color and detail. It would have been perfect if it had been as compact as the EasyShare Mini or Olympus VG-140. Also, Canon could have thrown in 720p video recording and fun effects such as Miniature, Fisheye, Soft Focus, and so on.



FRANCIS D'SA
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Though the look and compact size of the Olympus cameras did attract me, I would still opt for the Canon PowerShot A1200 for myself. It has a mode dial situated right on the top panel which makes it easy and quick to switch between scenes and different modes, avoiding wasting time searching for the exact feature while a shooting opportunity passes by. Sadly, the camera is a bit on the bulkier side, thanks to the AA batteries that need to be fed into its belly. But on second thoughts, it is easier to buy AA batteries all over the world and I wouldn't worry about carrying a charger everywhere I take the camera. The use of AA batteries has its benefits as well as disadvantages—AA batteries can be replaced and one can instantly return to shooting pictures without the need to wait for a recharge. But with regular AA batteries, the number of shots you'll get with each set of batteries will vary, making it potentially expensive and wasteful in the long run.

CANON POWERSHOT A800



SPECIFICATIONS

Rs 4,995

Weight: 186 g; Resolution: 10 MP; Focal length: 37-122 mm; Aperture: F3.0-F5.8; ISO range: 80-1600; LCD: 2.5-in, 115K dots; Scenes | WB modes: 11 | 5; Video: 640x480 @30 fps; Battery: 2xAA.

CONTACT Canon India
PHONE 0124-4160000
EMAIL info@canon.co.in

RATINGS

BUILD QUALITY	★★★★☆
FEATURES	★★★★☆
ERGONOMICS	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

The PowerShot A800 shouldn't be judged by its plain looks and measly feature set. Its top notch performance and low cost put it at the top position. This 10-megapixel camera uses a pair of AA batteries which makes it bulkier than the compact models that use li-ion batteries. It comes in four color choices, silver, black, red and blue grey. The feature set is also not too great. While most other models offer at least a 28 mm wide angle lens, the A800 has a 37 mm lens with 3.3x optical zoom, so you will face situations where you will have to move quite far away from a subject to make sure it fits in your frame.

The design of the control panel and user interface layout is typical of Canon cameras. The A800 offers four shooting modes (Auto, Program, Scene and Movie) which can be selected with a button. The Auto mode automatically detects the type of scene depending on lighting conditions and the type of subject, and adjusts the exposure parameters accordingly. The Program mode is slightly more advanced, with options to set the ISO speed, white balance, light metering

and image resolution manually. The Scene mode offers 11 presets, of which the most handy are Blur Reduction, Low Light, Portrait, Fireworks and Low Shutter. Movie recording is supported at 640x480 with 4x digital zoom, which is again a shortcoming considering most cameras offer 720p recording. But considering its price, this camera is great for those who want a basic point-and-shoot.

On the quality front, this camera defeated all others by a large margin. The reproduction of color and detail was excellent in both indoor and outdoor shots. Even noise was very well controlled in low light at high ISO speeds. Macro images can be shot at a very small distance of 1 cm, and the level of detail captured is outstanding. Video quality isn't great, but is acceptable enough. The camera comes with a 4 GB SD card and is absolute value for money.

VERDICT: A super affordable camera that delivers awesome results.

FOR: Affordable, excellent performance, very easy to use.

AGAINST: Slightly bulky, low resolution LCD, not very feature rich.



BUYING GUIDE

MEGAPIXEL REQUIREMENT: A larger pixel count doesn't mean better image quality anymore. Even an average camera these days will come with at least a 10-megapixel sensor, which is more than enough to produce standard 8 x 10 inch prints. The size of the camera's image sensor is more relevant these days. The larger the sensor, the better image quality will be, which is why DSLRs outperform point-and-shoots.

FOCAL LENGTH: Try and choose a camera with a wide focal length. For instance a camera with a 28 mm lens will provide a much wider view of the subject than what a standard 35 mm lens would produce. The focal length will be written as F(35 mm film equivalent),

eg 28(W)–105(T) mm. The initial 28(W) signifies that the camera has a wide angle lens while the latter defines the zoom value of the camera. Don't let the last value boggle you as you can enquire about the camera's zoom. The initial value 28(W) is more important. The lower the value, the wider it can shoot.

DIGITAL VS OPTICAL ZOOM: Never go by what the sales people have to say when it comes to the camera's zoom value. The camera's overall zoom usually mentioned is a marketing gimmick. This means if a camera has 4x optical zoom and 3x digital zoom, the total zoom value amounts to 12x. The thing to look out for here is the optical zoom value, which doesn't manipulate the image quality.

VIDEO: Most point-and-shoot cameras can record 640 x 480 video at 30 fps. Look out for an HD option. Newer cameras offer to capture video at 1280 x 720, but might be expensive. However don't just go by the specifications of the camera until you see the quality of the video on a larger screen. The camera screen is never large enough to judge overall video quality. Also taken into account when shooting videos is the file type it saves as. In this roundup, most videos are recorded as AVI files, but use M-JPEG compression standard which isn't optimal. If high-quality videos are important, you should opt for a better camera, but if casual videos are what you would shoot, these are just fine.



SpecScan

1



2



3



NAME	CANON POWERSHOT A1200	CANON POWERSHOT A800	FUJIFILM FINEPIX AV200
Contact	Canon India	Canon India	Fujifilm
Phone	0124-4160000	0124-4160000	0124-4325500
E-mail	info@canon.co.in	info@canon.co.in	manish.bobal@fujifilmindia.com
Price*	Rs. 5,995	Rs. 4,995	Rs. 5,499
OVERALL			
Features (25%)	59	58	56
Build quality (15%)	93	78	82
Ergonomics (20%)	77	73	70
Performance (35%)	80	86	80
Warranty (5%)	100	100	100
Overall (out of 100)	77	76	73
Value For Money	★★★★★	★★★★★	★★★★★
FEATURES			
Dimensions Weight	98 x 63 x 31 mm 185 g	94 x 61 x 31 mm 186 g	93 x 60 x 28 mm 168 g
CDD Size Effective resolution	1/2.3-inch 12.1 MP	1/2.3-inch 10 MP	1/2.3-inch 14 MP
Focal length	28 mm - 112 mm	37 mm - 122 mm	32 mm - 96 mm
Aperture	F2.8 - F5.9	F3 - F5.8	F2.9 - F5.2
Optical zoom Digital Zoom	4x 4x	3.3x 4x	3x 6.7x
Shutter speed	15 sec - 1/1600 sec	15 sec - 1/2000 sec	8 sec - 1/1400 sec
ISO range	ISO 80 - 1600	ISO 80 - 1600	ISO 100 - 3200
Display	2.7-inch, 230K dots	2.5-inch, 115K dots	2.7-inch, 230K dots
Modes: Auto Program	✓ ✓	✓ ✓	✓ ✓
Metering: Evaluative Center Spot	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✗
Total presets: Scenes Filter effects	11 0	11 0	17 0
Color modes White balance	5 5	5 5	2 4
Video: Resolution and frame rate	1280x720 @ 30 fps	640x480 @ 30 fps	1280x720 @ 30 fps
Zoom type for video capture Video format	Digital AVI (H.264)	Digital AVI (M-JPEG)	Optical AVI (M-JPEG)
Image stabilizer Video-out	✗ ✓	✗ ✓	Digital ✓
Memory: Built-in Bundled	NA 4 GB	NA 4 GB	NA 4 GB
Battery type needed	2x AA	2x AA	2x AA
Bundled: Wrist strap Pouch Software disc	✓ ✓ ✓	✓ ✓ ✓	✓ ✗ ✓
BUILD QUALITY			
Quality of shell	5	4	4
Quality: Buttons Port flaps Battery lid	5 4.5 5	4 4.5 4	3.5 5 4.5
Aesthetic appeal	4	3.5	4
ERGONOMICS			
Navigation aid	D-pad	D-pad	D-pad
Grip Ease of menu navigation	4.5 5	4 5	4.5 4.5
Buttons: Size Spacing Tactility	5 5 4.5	4.5 4.5 4	3.5 4 3.5
Shotcut buttons: ISO Flash Self timer	✗ ✓ ✓	✗ ✓ ✓	✗ ✓ ✓
Macro Info Video rec	✓ ✓ ✗	✓ ✓ ✗	✓ ✓ ✗
PERFORMANCE			
Macro range (Tested)	3 cm	1 cm	9.7 cm
Overall contrast: Indoors Outdoors	3.5 5	3 5	5 4
Overall capture quality: Indoors Outdoors	4.5 4.4	4.3 5	4.4 4.2
Low light portrait: Details Overall contrast	2.5 4.5	2.5 3.5	4.5 4
Noise test (ISO): 400 800 1600	3.5 4 3.5	4.5 3.5 4	4.5 3 4
Video: Overall clarity Playback smoothness	4.5 3	3.5 3.5	4.5 3.5
WARRANTY			
Warranty period	2 years	2 years	2 years

* Prices are indicative and are subject to change, taxes extra

SpecScan

4



5



6



NAME	OLYMPUS VG-120	OLYMPUS VG-140	NIKON COOLPIX L24
Contact	Olympus Imaging India	Olympus Imaging India	Nikon India
Phone	022-61420400	022-61420400	0124 4688500
E-mail	inquiry@olympus.in	inquiry@olympus.in	kamath.chandranth@nikon.co.in
Price*	Rs. 6,999	Rs. 7,499	Rs. 5,950
OVERALL			
Features (25%)	64	63	60
Build quality (15%)	98	98	90
Ergonomics (20%)	71	71	72
Performance (35%)	66	62	64
Warranty (5%)	100	100	100
Overall (out of 100)	73	71	70
Value For Money	★★★★☆	★★★★☆	★★★★☆
FEATURES			
Dimensions Weight	96 x 56.5 x 19.3 mm 120 g	96 x 56.5 x 19.3 mm 125 g	98 x 61 x 28 mm 182 g
CCD Size Effective resolution	1/2.3-inch 14 MP	1/2.3-inch 14 MP	1/2.3-inch 14.1 MP
Focal length	26 mm - 130 mm	26 mm - 130 mm	37 mm - 134 mm
Aperture	F2.8 - F6.5	F2.8 - F6.5	F3.1 - F6.7
Optical zoom Digital Zoom	5x 4x	5x 4x	3.6x 4x
Shutter speed	4 sec - 1/2000 sec	4 sec - 1/2000 sec	4 sec - 1/4000 sec
ISO range	ISO 80 - 1600	ISO 80 - 1600	ISO 80 - 6400
Display	3-inch, 230K dots	3-inch, 230K dots	3-inch, 230K dots
Modes: Auto Program	✓ ✓	✓ ✓	✓ ✗
Metering: Evaluative Center Spot	✓ ✗ ✗	✓ ✗ ✗	✓ ✗ ✗
Total presets: Scenes Filter effects	15 7	15 7	17 0
Color modes White balance	0 6	0 6	4 7
Video: Resolution and frame rate	1280x720 @ 30 fps	1280x720 @ 30 fps	640x480 @ 30 fps
Zoom type for video capture Video format	None AVI (M-JPEG)	None AVI (M-JPEG)	Digital AVI (M-JPEG)
Image stabilizer Video-out	Digital ✓	Digital ✓	Digital ✓
Memory: Built-in Bundled	49 MB 4 GB	49 MB 4 GB	22 MB 4 GB
Battery type needed	Li-ion	Li-ion	2x AA
Bundled: Wrist strap Pouch Software disc	✓ ✓ ✓	✓ ✓ ✓	✓ ✗ ✓
BUILD QUALITY			
Quality of shell	5	5	4.5
Quality: Buttons Port flaps Battery lid	5 4 5	5 4 5	4 5 4.5
Aesthetic appeal	5	5	4.5
ERGONOMICS			
Navigation aid	D-pad	D-pad	D-pad
Grip Ease of menu navigation	4.5 5	4.5 5	5 4.5
Buttons: Size Spacing Tactility	3.5 5 5	3.5 5 5	4.5 5 4.5
Shutter buttons: ISO Flash Self timer	✗ ✗ ✗	✗ ✗ ✗	✗ ✓ ✓
Macro Info Video rec	✗ ✓ ✓	✗ ✓ ✓	✓ ✗ ✗
PERFORMANCE			
Macro range (Tested)	5.2 cm	5.2 cm	4 cm
Overall contrast: Indoors Outdoors	4.5 4.5	3.5 4	2 3.5
Overall capture quality: Indoors Outdoors	3.9 3.4	3.5 3.4	3.1 3.6
Low light portrait: Details Overall contrast	3.5 4	3.5 4	3 2.5
Noise test (ISO): 400 800 1600	3.5 2.5 2.5	2 2.5 1.5	4 3.5 3
Video: Overall clarity Playback smoothness	2.5 3	3 3	3 4
WARRANTY			
Warranty period	2 years	2 years	2 years

* Prices are indicative and are subject to change, taxes extra

7



8



9



10



11



OLYMPUS VG-110

Olympus Imaging India
022 61420400
inquiry@olympus.in
Rs. 5,999

NIKON COOLPIX L23

Nikon India
0124 4688500
kamath.chandranth@nikonoa.net
Rs. 4,990

FUJIFILM FINEPIX JX300

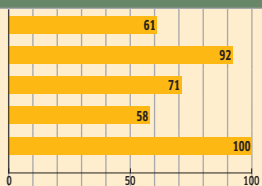
Fujifilm
0124-4325500
manish.bobal@fujifilmindia.com
Rs. 7,499

KODAK EASYSHARE CD44

Kodak India
022-66416300
in-feedback@kodak.com
Rs. 5,499

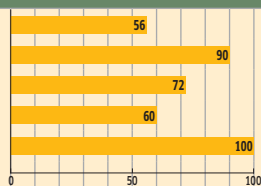
KODAK EASYSHARE MINI

Kodak India
022-66416300
in-feedback@kodak.com
Rs. 6,499



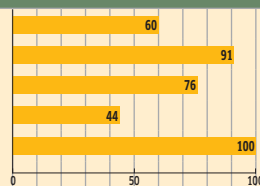
69

★★★★★



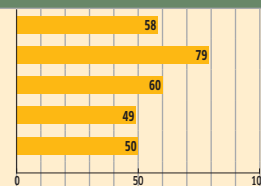
68

★★★★★



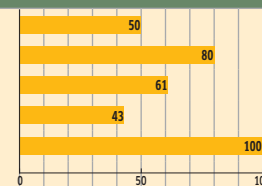
64

★★★★★



58

★★★★★



57

★★★★★

92 x 54 x 20 mm | 105 g
1/2.3-inch | 12 MP
27 mm - 108 mm
F2.9 - F6.5
4x | 4x
4 sec - 1/2000 sec
ISO 80 - 1600
2.7-inch, 230K dots
✓ | ✓
✓ | ✗ | ✗
15 | 7
0 | 6
640x480 @ 30 fps
None | AVI (M-JPEG)
Digital | ✓
18 MB | 4 GB
Li-ion
✓ | ✓ | ✓

96.7 x 59.9 x 29.3 mm | 170 g
1/2.9-inch | 10.1 MP
28 mm - 140 mm
F2.7 - F6.8
5x | 4x
4 sec - 1/4000 sec
ISO 80 - 1600
2.7-inch, 230K dots
✓ | ✗
✓ | ✗ | ✗
17 | 0
4 | 7
640x480 @ 30 fps
Digital | AVI (M-JPEG)
Digital | ✓
22 MB | 4 GB
2x AA
✓ | ✗ | ✓

94 x 56 x 24 mm | 130 g
1/2.3-inch | 14 MP
28 mm - 140 mm
F2.6 - F6.2
5x | 6.7x
8 sec - 1/1800 sec
ISO 100 - 3200
2.7-inch, 230K dots
✓ | ✓
✓ | ✗ | ✗
15 | 0
2 | 7
1280x720 @ 30 fps
Optical | AVI (M-JPEG)
Digital | ✓
NA | 4 GB
Li-ion
✓ | ✗ | ✓

152.4 x 127 x 76 mm | 175 g
1/2.3-inch | 12 MP
32 mm - 96 mm
F3.2 - F9.6
3x | 5x
8 sec - 1/1400 sec
ISO 80 - 1600
2.7-inch, 230K dots
✓ | ✓
✓ | ✓ | ✗
22 | 0
4 | 4
640x480 @ 30 fps
Digital | AVI (M-JPEG)
✗ | ✓
32 MB | 2 GB
2x AA
✓ | ✗ | ✓

86 x 53 x 18 mm | 99 g
1/3-inch | 10 MP
29 mm - 87 mm
F3 - F4.8
3x | 5x
8 sec - 1/1400 sec
ISO 100 - 1000
2.5-inch, 230K dots
✓ | ✓
✓ | ✗ | ✗
17 | 0
4 | 3
640x480 @ 30 fps
Digital | AVI (M-JPEG)
✗ | ✓
18 MB | 4 GB
Li-ion
✓ | ✗ | ✓

5
5 | 4 | 5
4

4.5
4 | 5 | 4.5
4.5

5
3.5 | 5 | 4
4.5

4
4 | 5 | 4
3.5

4
4 | 5 | 3
4

D-pad
4.5 | 5
3.5 | 5 | 5
✗ | ✗ | ✗
✗ | ✓ | ✓

D-pad
5 | 4.5
4.5 | 5 | 4.5
✗ | ✓ | ✓
✓ | ✗ | ✗

D-pad, Mode dial
4 | 5
3.5 | 4.5 | 4
✗ | ✓ | ✓
✓ | ✓ | ✗

D-pad
3.5 | 4.5
4 | 4 | 4
✗ | ✓ | ✗
✗ | ✓ | ✗

D-pad
4.5 | 4.5
2.5 | 2.5 | 4.5
✗ | ✓ | ✗
✗ | ✓ | ✗

3.5 cm
2 | 4.5
2.8 | 3
2.5 | 2.5
2.5 | 2.5 | 3
3.5 | 4.5

5 cm
2.5 | 3
2.7 | 2.8
3.5 | 4.5
4 | 3.5 | 3.5
3 | 4

8.3 cm
2 | 2.5
2.2 | 2.3
2.5 | 3.5
1.5 | 1.5 | 1
3 | 3.5

9.2 cm
2 | 2.5
2.2 | 2.7
4 | 2.5
1.5 | 1.5 | 3
2.5 | 3.5

3.8 cm
1.5 | 2
1.4 | 2.5
3 | 3.5
1.5 | 1.5 | 2
2.5 | 3.5

2 years

2 years

2 years

1 year

2 years



OPERATING SYSTEM

APPLE MAC
OS X LION

VERDICT: A feature refresh for OS X after nearly two years, that brings all kinds of new goodies.

FOR: Autosaving documents, refined interface, convenient Launchpad and Mission Control.

AGAINST: Some visuals overshadow usability, default scroll behavior is unintuitive.



When Apple showed how it was planning to take the best features of iOS “back to the Mac” earlier this year, it was hard to tell whether or not such a move would be a good idea. Already, iPads and iPhones seemed more important to the company than its Macs, and we were asked to believe that making Mac OS look and feel like iOS would be a good thing. Now that it’s here and we’ve had a chance to get a solid hands-on, Lion’s iOS-inspired features have begun to make sense. There’s no denying that Lion feels very different from the versions that have come before it, but thankfully nothing about it has been dumbed down or simplified at the cost of power and flexibility.

Breaking with tradition, you won’t be able to buy Lion on DVD. You’ll have to download all 4 GB of it from the Mac App Store (which, by the way, requires the latest Snow Leopard updates). On the other hand, Launchpad, the most visible iOS import, is not by any means the only way to launch programs. If you prefer an iPad-style

icon grid with folders and pages, it’s always there for you. If not, nothing prevents you from using the dock, Finder, or regular shortcut icons. Mission Control, another headlining feature, is an improved Expose, which shows all open windows grouped by application as well as Spaces, all arranged sensibly. Apps can now run in fullscreen, which partially fixes one of the biggest irritants Windows users will have faced. Not all apps take advantage of this, and many of those that do rearrange themselves and look completely different, rather than simply scaling to fill the screen. One feature we turned off instantly was reversed scrolling—swiping a touchpad or scroll zone now moves documents in the opposite direction, to feel more like you’re swiping across a touchscreen. It’s confusing and doesn’t translate well. On the other hand, having scroll bars are hidden by default and making window contents stretch and bounce at the end of a page seemed quite natural and were easy to get used to.

More importantly, Lion completely changes the way applications handle files. The traditional



Mission Control outlines all open windows and apps, including full-screen apps which occupy their own Spaces.



A Time Machine-style view of document revisions can be accessed using any file’s name in an application title bar, which is now home to the version controls.



Loads of new multitouch gestures, including ones to switch between apps, call up the Launchpad, and navigate pages.

concept of saving work can in fact be done away with completely. Much like iOS, programs by default open up to the state you last left them in, which means any content you've created or edited is also preserved. Save dialogs are essentially redundant, and the OS just keeps on saving versions of anything you're working on. You can browse through your version history and selectively restore parts of an older version, save a copy, or revert to it entirely if you need to. These features work together beautifully, and while they'll be a godsend for those who habitually forget to save their work (or those who just don't want to bother), they raise some serious privacy concerns. If you get into the habit of just forgetting about saves and deletes, people might find things lying around that you never wanted them to see.

Other, smaller changes abound too. Lines are cleaner, colors are lighter, shadows are reduced, and curves are more squared off in most windows and controls. Just like iTunes, sidebar lists now have monochrome icons instead of color. Several of the built-in apps have also been overhauled: iCal, Address Book and Mail now resemble their iPad counterparts. iCal's leatherclad look won't appeal to all, but Mail's vertical inbox pane is much more convenient on widescreen displays. Usability improvements are also scattered throughout: you can drag files from Spotlight search results,

share files between networked Macs by simply dragging and dropping, and iPhone-style autocorrect prompts dot the text you type. iOS has inspired some great features, and there's nothing that would make a Mac loyalist feel out of place. 

- Jamshed Avari

SPECIFICATIONS

Mac OS X 10.7

www.apple.com

SYSTEM REQUIREMENTS

CPU: Intel Core 2 Duo or above; RAM: 2 GB; HDD: 7 GB space available

CONTACT Apple India
PHONE 1800-425-0744
EMAIL indiasales@mac.com

RATINGS

FEATURES	★★★★★
PERFORMANCE	★★★★★
EASE OF USE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★

ON DVD



CHIP DVD

AUGUST 2011

RED HOT APPLICATIONS

Corel DESIGNER Technical Suite X5
Corel Painter 12
CorelCAD

Corel PDF Fusion
Corel WinZip Courier 3.0
Corel WinDVD Pro 2010



FULL SOFTWARE

Lupo PenSuite 2011.04

FULL GAMES

Angry Birds Full Game
Angry Aliens
Vroom
Bomb It
Mass Mayhem 2
Bike Mania On Ice
Little Farm *and more...*

GAME ADD ONS

Advanced Tactics: Gold Patch 2.05
Shin Megami Tensei: Imagine
Patch 1.472U to 1.473U
Conquer Online Cumulative Patch
All to 5508
TAGAP: The Apocalyptic Game
About Penguins Patch 1.8a
Crysis 2 Patch 1.8 *and more...*

GAME DEMOS

Mini Fighter Demo 20101020
Faery: Legends of Avalon Demo
Cargol The Quest for Gravity
Demo *and more...*

GAME TRAILERS

Batman: Arkham City
Bioshock Infinite
Far Cry 3
Assassins Creed
Revelations Teaser
Assassins Creed
Revelations E3 2011
CoD Modern Warfare 3
FIFA 12
Uncharted 3
Battlefield 3
Green Lantern: Rise of the
Manhunters - Launch Trailer
Eden Eternal - E3 2011
Cleric Trailer
Dungeons and Dragons:
Neverwinter - E3 2011
Teaser Trailer *and more...*

LINUX

LINUX DISTRIBUTION

Fedora 15 Desktop Edition
LIVE CD

LINUX TOOLS

LedgerSMB 1.3.0 Build 20110614
GNU VCDImager/VCDrip 0.7.24

Clash 4.0.3
Super Flexible File
Synchronizer 5.48a
PiTiVi 0.14.0
RText 1.4.0
Goobox 2.90.1
Instantbird 0.3 Beta 1
gentoo 0.19.10
LiVES 1.4.3 *and more...*

TOOLS

MULTIMEDIA

Alcohol 120% 2.0.1.2033
DVDx 4.0.0.5 Build 7596
VLC DVD Ripper 1.2.0
DAEMON Tools Lite 4.40.2
CloneDVD 2.9.3.0
AVS Video ReMaker
eXtreme Music Manager
WavePad 4.59
Free MP3 Cutter and Editor
2.5.0 Build 383
AV Music Morpher 5.0.52
Sothink SWF Editor 1.0 Build 280
Ashampoo Photo Converter 1.0.1
4Easysoft Free Flash Converter
3.2.26 *and more...*

INTERNET

eMule Turbo Accelerator 3.6.0
BitTorrent Ultra
Accelerator 4.6.2.0
CandiSoft - Load! 0.7
Solway's Internet TV and
Radio 1.54
Web Album Copier 0.3.35 Beta
Instantbird 0.3 Beta 1
Trillian Astra 5.0 Build 33
Google Talk Labs Edition
1.2.131.11 *and more...*

MOBILE

Angry Birds game (Android) 1.5.1
Angry Birds Rio game
(Android) 1.0.0
Angry Birds Seasons game
(Android) 1.4.0
Nokia Drop 1.1 beta
Fring (S60 3rd/5th Edition,
Symbian^3) 4.4
Nokia Configuration Tool 6.2
F-Secure Anti-Theft for Mobile
(Symbian) 7.0
MOZAT (Java) 6.0.2 *and more...*

SECURITY

Norton AntiVirus
2012 19.0.0.117 Beta
ESET File Security 4.3.12010.0 RC
Norman Malware Cleaner 2.01.00
(2011.06.13)
Cloud Antivirus 1.5.0
Avast! Internet Security 6.0.1125
Panda Global Protection 2012
5.00.00
ESET NOD32 Antivirus
5.0.84.0 RC *and more...*

SYSTEM

Pocket Wikipedia 1.0
Synccdocs Portable
0.55.3684.1447 Beta
SlimCleaner 1.6.12570.35797
XUS Desktop 1.3.58
WinMount Free Edition 3.5.0331
Casper 5.0.1830
novaPDF Professional
Desktop 7.4.367
Aloaha PDF Suite 5.0.71
Comodo Backup 3.0.171317.133
PersonalBrain 6.0.7.1
Ashampoo Undelete 1.00
HDCIone Free Edition 4.0.4c
Manage It! (formerly MSV
System Utilities) 1.1.1.0
Tweak UI 2.1 *and more...*

MUST HAVES

ATI Catalyst Drivers 11.6 XP
ATI Catalyst Drivers 11.6 Vista
NVIDIA Forceware 275.33
WHQL XP
NVIDIA Forceware 275.33
WHQL Vista *and more...*

ADOBE PLAYERS

Flash Player 10.3.181.26 (IE)
Flash Player 10.3.181.26 (Non-IE):
Adobe Air 2.7.0.19460 RC 2
Shockwave Player 11.6.0.626

E-BOOKS

CHIP ARCHIVES

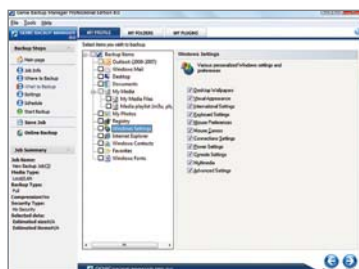
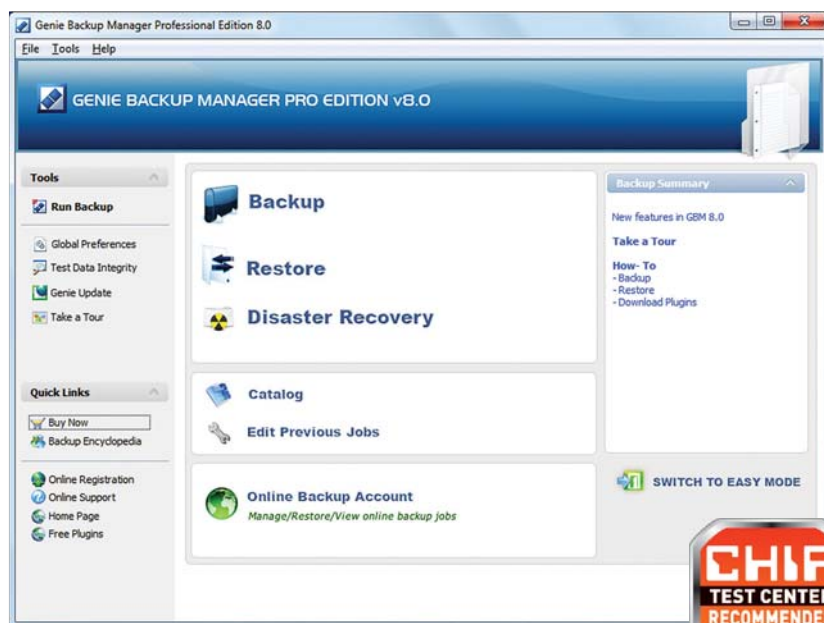
CHIP ARCHIVE - MAR 11 to MAY 11

BUSY

Accounting, Inventory & Billing
Software

VERDICT

A COMPREHENSIVE
BACKUP UTILITY
FOR INDIVIDUALS
AND SMALL
BUSINESSES.



The application allows creation of backup profiles in which each component can be customized.

BACKUP UTILITY

GENIE BACKUP MANAGER PRO 8.0

FOR: Intuitive UI, excellent help and tutorials, feature rich.

AGAINST: None.

Genie Backup Manager Pro is a powerful backup suite targeted at power users and small businesses. The UI is designed such that it is easy for anyone to use. By default, it runs in Normal mode, which doesn't look very daunting. The main tasks (Backup, Restore and Disaster Recovery) are displayed in the center, and to the left, you'll find functions grouped under Tools and Quick Links categories. The Tools category has the option to run backup, test data integrity and update the program. Novice users can switch to easy mode, where the main page displays only two functions – Create Backup and Restore. Additional features like Test Backup, Format CD-RW, etc are accessible from the File and Tools menus. You start with the backup wizard, which walks you through the entire process. You first specify the name of the backup job followed by the backup location, backup type, compression, encryption and

schedule. Data can also be backed up to FTP locations, CD/DVDs, tape devices and online. You can backup Outlook data, Windows settings and Registry, Windows Contacts, Favorites, My Photos folder and Documents folder. Each of these items can be customized at a granular level. The My Plugins feature comes in handy for programs such as Opera, WinZip, and Norton Anti-Virus, wherein data related to the program is also backed up. The entire drive can be backed up using the Disaster Recovery mode. If the drive fails, this feature can get your PC up and running with all your data intact within a few minutes. The restore function is very simple. You just have to select the backup file or online backup and select the items you wish to restore from the backup. This is one of the best backup programs we have come across in terms of functionality and ease of use. 

- Anand Tuliani

SPECIFICATIONS

**\$69.95 (approx
Rs 3,200)**

www.genie9.com

SYSTEM REQUIREMENTS

OS: Windows XP/Vista/7; RAM: 512 MB; Drive space: 50 MB.

CONTACT Genie9

PHONE NA

EMAIL NA

RATINGS

FEATURES	☆☆☆☆☆
PERFORMANCE	☆☆☆☆☆
EASE OF USE	☆☆☆☆☆
OVERALL RATING	☆☆☆☆☆
VALUE FOR MONEY	☆☆☆☆☆

PDF SUITE

ALOHA PDF SUITE PRO 5.0.71

VERDICT: An easy to use, feature-rich PDF convertor utility.

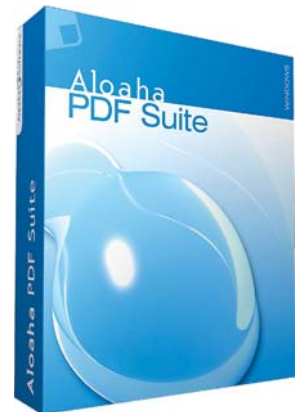
FOR: Simple interface.

AGAINST: Slightly expensive.

Converting documents into PDF and then distributing them is a highly secure method as it can avoid tampering of the original document. Furthermore, the PDF documents preserve the look and integrity of your original documents when you share them with anyone electronically, regardless of hardware and software platforms. Aloha PDF Suite Pro is a very simple, easy and powerful utility for all your PDF converting needs. It features similar functions as any other PDF creation utility such as compression, encryption and digital signatures. The Aloha suite also features a built-in PDF editor. Using this suite,

users can create searchable PDF files, add letterheads, mail PDF files directly from within the application, and include timestamps too. The user interface is very simple and clean and is pretty easy to use even for a beginner. The application creates a PDF printer, and documents that need to be converted to PDF have to simply be printed using this printer. The rest of the features and settings are highlighted in the window after the print command to the PDF printer is executed. While it isn't exactly cheap, at less than half the price of Adobe Acrobat, this tool does offer great value for money. 📌

- Francis D'sa



SPECIFICATIONS

\$117 (approx Rs 5,500)

www.aloha.com

SYSTEM REQUIREMENTS

OS: Windows XP or higher; Processor: Pentium 4 equivalent or higher; RAM: 1280 MB or higher; Disk space: 25 MB.

CONTACT	Aloha Software
PHONE	NA
EMAIL	NA

RATINGS

FEATURES	★★★★☆
EASE OF USE	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆



MUSIC ORGANIZER

EXTREME MUSIC MANAGER

VERDICT: Helps you organize music and find songs with great ease.

FOR: Provision of sample database as reference, fetches data online, powerful search.

AGAINST: Some rare albums have to be entered manually.

Using a music management tool becomes a necessity when you have a large music collection. You need a utility that lets you manage a searchable database with entries of all your CDs, vinyl records and MP3 files scattered across folders and external storage devices. Extreme Music Manager is designed to effortlessly manage your music collection. It can import entries into its database by looking up songs in specified folders on a hard drive or any form of storage device. In the case of audio CDs, it can scan the CD ID and fetch data from the Internet. Alternatively, you can type the name of the album and the tool will search online for track list, artist biography and other details

and automatically fill in the fields if the album is found. If you have a webcam, you can use it to scan barcodes and tell it to look up online for album data. The main interface has a tree structure of the database in which your music collection is grouped by albums, artists, track names, playlists, genres, etc. When you're done with building up the database, everything becomes easy. When you click on an artist name, the biography, discography, photos, albums in the database, and other details are displayed. There's an advanced search tool that helps finding songs by using a combination of search filters. A sample database containing a few albums is provided. 📌

- Anand Tuliani

SPECIFICATIONS

€14.95 (approx Rs 1,000)

www.binaryworks.it

SYSTEM REQUIREMENTS

OS: Windows XP/Vista/7; RAM: 256 MB; Drive space: 48 MB.

CONTACT	BinaryWorks.it Software
PHONE	NA
EMAIL	NA

RATINGS

FEATURES	★★★★☆
EASE OF USE	★★★★☆
PERFORMANCE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

VERDICT

**A VERY SIMPLE,
HANDY AND
EFFICIENT
UTILITY TO
ENHANCE YOUR
HOME VIDEOS
WITH MINIMAL
EFFORT.**



Color correction of videos and adding effects to the videos can be viewed in real-time.

SPECIFICATIONS

\$11.99 (approx Rs 570)

www.ashampoo.com

SYSTEM REQUIREMENTS

OS: Windows XP or higher; Processor: 1 GHz or higher; RAM: 1 GB or higher; Disk space: 100 MB.

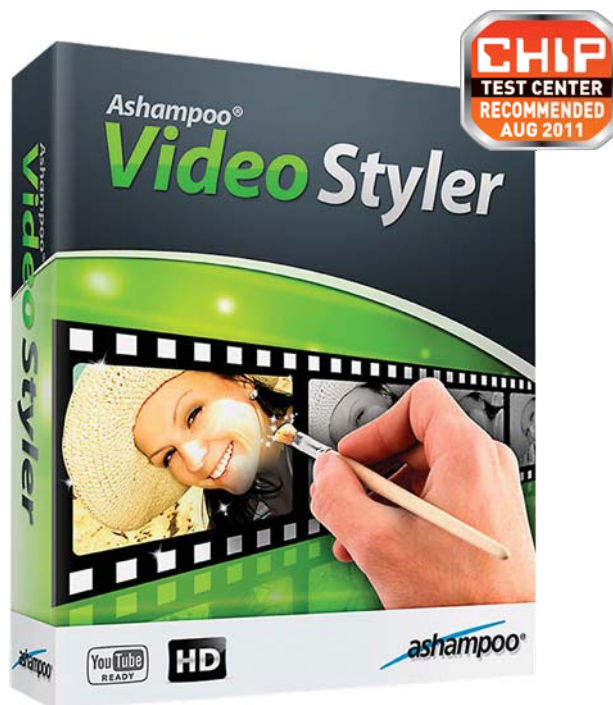
CONTACT Ashampoo GmbH & Co. KG

PHONE 0049-441-933790

EMAIL sales@ashampoo.com

RATINGS

FEATURES	★★★★★
PERFORMANCE	★★★★★
EASE OF USE	★★★★★
OVERALL RATING	★★★★★
VALUE FOR MONEY	★★★★★



VIDEO EDITING

ASHAMPOO VIDEO STYLER

FOR: On-the-fly effects and tweaking, simple UI, easy to use, upscaling of video formats.

AGAINST: Lacks video clipping and joining tool.

Using Ashampoo Video Styler, you can edit your home videos to be more presentable and fun. The video editing utility features a series of video enhancement tools that are easy to use for anyone. Color correction such as brightness, contrast gamma and saturation levels can be tweaked easily. Standard 4:3 video formats can be switched to 16:9 for widescreen effects. Videos can be also be inverted or rotated. Additional effects that can be given to videos to give it a fun aspect, which include color inversion, grayscale effects, sepia tones, old movie effects, and TV styles. Background music or voice over files can be inserted too. All these styles, effects and corrections can be done on-the-fly without any waste of time, which translates into real-time viewing of the effects without actually encoding them. Final videos can be saved in either its original format or can be upscaled into

1080p videos in containers such as AVI, MPG, WMV and Blu-ray formats. You also have the option of saving the final videos with your choice of file size and playback quality. Videos can also be saved or uploaded to Youtube and Facebook. Using the Video Styler utility is too simple and the user interface is too simple. At a beginner's level, this utility can be learned in just a couple of minutes. All you need to do is simply start the utility, browse to your video, click on the editing icon, tweak the color correction sliders, apply effects and save the videos in the desired format, file size and destination. This utility has a downside though; it lacks a clipping and/or joining tool, which can help eliminate unwanted footage or join a series of clips together. Overall, Ashampoo Video Styler is an awesome utility and very handy for quick correction and uploading/saving of basic videos. 

- Francis D'sa



WINDOWS UTILITY

WINDOWS 7 MANAGER 2.1.5

FOR: Creates a restore points, feature rich, very comfortable UI.
AGAINST: None.

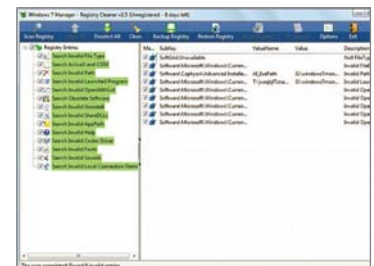
Windows 7 Manager is an all-in-one utility that helps you tweak, optimize, tune and clean up and monitor Windows 7 with ease. You can also change startup and shutdown speeds, clear out unwanted files, keep a check on your disk space usage, find duplicate files, and optimize the registry. Customization options include controlling popup windows, search criteria, mouse pointers, OS product ID, Windows Explorer settings like file and folder view, navigations settings, etc. You can also alter context menus and create custom shortcuts to run programs from the Run dialog box. It also enables you to create restore points or roll back to a restore point created before. You can block programs that are a potential threat, and the utility also gives you a list of all the files installed in your system that have been hijacked. The application also enables you to control Internet

and network-based usage by tweaking network settings. The IE9 manager lets you control the browser's features, appearance and security. Moreover, you can manage its plug-ins, tool bars, tool menus and favorites. The utility also helps you clear all traces off your machine once you have finished using it. Under the Privacy Protector options, you can clear all recently opened program tracks, delete Recent Document history, search values, even windows media player play lists. You can also get rid of your virtual trail by deleting browsing history, Index.dat files, and typed URLs. However, the pick of the lot is the Super Copy utility. It enables you to move or copy files and folders from one destination to another without opening any additional windows. You can also exclude empty folders, files unused for a certain period, or files that are either larger or smaller than a particular limit. 

-Kamakshi Venugopal

VERDICT

**A VERY HANDY
TOOL
ESPECIALLY
THAT HELPS
YOU MANAGES
WINDOWS &
WITH UTMOST
EASE.**



The Registry Cleaner module helps optimizing the Registry by cleaning up redundant entries.

SPECIFICATIONS

Rs 1,901.56

www.yamicsoft.com

SYSTEM REQUIREMENTS

OS: Windows7; Drive space: 50 MB.

CONTACT Yamicsoft

PHONE NA

EMAIL support@yamicsoft.com

RATINGS

FEATURES	☆☆☆☆
PERFORMANCE	☆☆☆☆
EASE OF USE	☆☆☆☆
OVERALL RATING	☆☆☆☆
VALUE FOR MONEY	☆☆☆☆



MEDIA PLAYER

CYBERLINK POWERDVD 11 ULTRA

VERDICT: An ultimate solution for playback of media files.

FOR: Easy to use UI, plays almost any file.

AGAINST: Minimal transition effects.

SPECIFICATIONS

\$89.95 (approx Rs 4,300)

www.cyberlink.com

SYSTEM REQUIREMENTS

OS: Windows XP and above, Processor: Pentium 4 equivalent and above; RAM: 1 GB or higher; Disk space: 300 MB.

CONTACT	Cyberlink
PHONE	NA
EMAIL	NA

RATINGS

FEATURES	★★★★☆
PERFORMANCE	★★★★☆
EASE OF USE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

PowerDVD is said to be the 'Ultimate Single-Player' utility. In our tests, that proved to be almost true as few music or movie files caused it significant difficulties. Some videos saved by an iPhone or iPod Touch would sometimes struggle to play, but it mostly shined through. If we were to also include the easy access to Flickr and Facebook photos and YouTube video playback, PowerDVD seems to live up to the promise. Then there are a few optimization functions that can stabilize shaky videos, sharpen blurred images or enhance brightness and contrast. You can convert 2D photos and videos into 3D, but this isn't true 3D. Photographs can also be reproduced as a slideshow, but with only two available transition effects, so the final outcome can be boring. PowerDVD is a great media player, but does come with a few hiccups. 📺

—feedback@chip.in

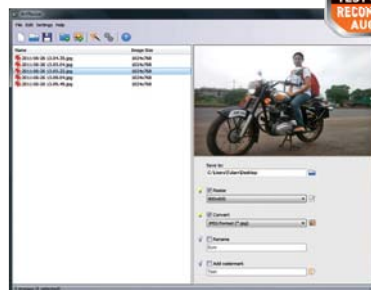


IMAGE RESIZING TOOL

ARTRESIZE

VERDICT: An easy-to-use tool for batch resizing and conversion.

FOR: Very straightforward, supports file type conversion.

AGAINST: Doesn't show projected file size, no text watermarking.

SPECIFICATIONS

Freeware

www.wiseval.com

SYSTEM REQUIREMENTS

OS: Windows XP/Vista/7; RAM: 256 MB; Drive space: 3.5 MB.

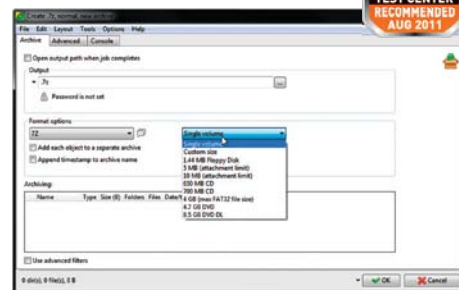
CONTACT	Wiseval
PHONE	NA
EMAIL	NA

RATINGS

FEATURES	★★★★☆
PERFORMANCE	★★★★☆
EASE OF USE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

Resizing high resolution images to lower resolution makes them convenient to view and reduces file size dramatically. This is advisable when you want to send photos by email or put them on social networking websites. ArtResize is an all-in-one tool for resizing, converting, renaming and watermarking several images in one go. The beauty lies in its simplicity. The 3.5 MB executable file runs directly without having to install it, and the UI is very neat. You first have to add images (single or multiple) and folders, and specify the image resolution, file format, new filename, watermark and the destination folder for the output. The files are processed in one go when you click on the 'Process Images' button or hit [F9]. The tool works like a charm, but we would have been happier had it showed the projected file size and supported text watermarking. 📺

—Anand Tuliani



ARCHIVING UTILITY

PEAZIP 3.8

VERDICT: A simple and free, yet powerful archiving tool.

FOR: Free, simple interface, portable option available.

AGAINST: None.

SPECIFICATIONS

Freeware

www.peazip.org

SYSTEM REQUIREMENTS

OS: Windows 9x or higher; Processor: Pentium III or higher; RAM 120 MB or higher; Disk space: 10 MB.

CONTACT	PeaZip
PHONE	NA
EMAIL	giorgio.tani.software@gmail.com

RATINGS

FEATURES	★★★★☆
PERFORMANCE	★★★★☆
EASE OF USE	★★★★☆
OVERALL RATING	★★★★☆
VALUE FOR MONEY	★★★★☆

An alternative to popular archiving utilities like WinRAR, PeaZip is available for free and is equally easy to use. It allows you to create, convert and extract multiple archives at once, create self-extracting archives, bookmark archives and folders, apply powerful search filters, scan and open files with custom applications, apply strong encryption, split/join files, secure data deletion and calculate checksums. The UI is easy to use. It features drag-n-drop and integrates into the systems context menu. It works with almost all popular archive formats and also includes encryption, compression, secure deletion and saving backup scripts. It is said to run on all operating systems right from Windows 98 to Windows 7 and features faster performance with a 64-bit version. PeaZip is also available in portable format for instant use from USB drives. 📺

—Francis D'sa

FILE LOCKER

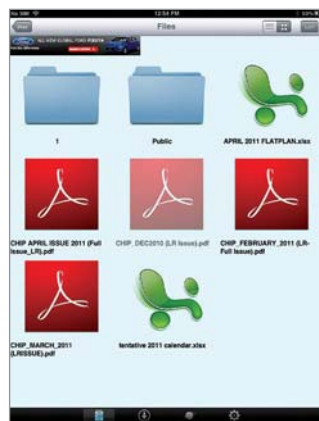
Tagdisk HD+

\$5.99 (approx Rs 267)

iPad; iOS 3.2

OVERALL RATING ★★★★☆

One longstanding iOS bugbear is the way it hides the file system. You can't simply copy files over and browse through folders to find them. Tagdisk lets you at least carve out a bit of space in which files of any type can be stored. In addition to that, it lets you preview most document and audio/video filetypes and also send files to any supported program that can open them, which is super handy. You can move files onto an iPad/iPhone through iTunes or using a browser-based uploader over Wi-Fi, which is convenient but much slower. The app also



has a built-in browser that lets you download files (including some embedded Flash content) from most websites. The app also integrates with the iOS email client to handle file attachments. A free version contains banner ads and randomly locks some of the stored files. Tagdisk HD for iPhone/iPod costs \$4.99. ✉

- Jamshed Avari

BROWSER

Opera Mini

Free

iPhone, iPod touch, iPad; iOS 3.0

OVERALL RATING ★★★★☆

Massively popular on mobile phones for its ease of use, Opera Mini is now available natively for the iPad. Opera Mini takes advantage of the iPad's larger screen to show a full toolbar with navigation controls and options. Multiple tabs are displayed as visual thumbnails in one of the popout menus, allowing you to quickly switch between open pages. Opera's trademark Speed Dial launch screen lets you get to your favorite sites quickly,

and you can sync these across desktop, mobile and tablet versions. One of Opera Mini's key features is the way it routes web requests through its own compression servers, making pages appear to load faster as well as saving you money if you're on a 3G or limited access plan. The only problem is that many websites detect it as a mobile browser, and display their limited mobile sites by default. ✉

- Jamshed Avari



GAME

Traffic Rush

\$0.99 (approx Rs 44)

iPhone, iPod touch, iPad; iOS 3.0

OVERALL RATING ★★★★☆

This deceptively simple looking game will keep you hooked for hours. Your only job is to prevent cars from crashing into each other at a busy crossroads, which of course has no traffic signal. You can swipe cars to make

them go faster or tap to stop them. You'll have to manage bikers that zoom out from nowhere, and trucks that lumber agonizingly slowly. The pace of course gets faster and faster as you continue. Eventually, a zooming bike or truck will catch you off guard! The Rail Rush mode changes the setting to a set of criss-crossing railway tracks, but the goal is the same. In this mode, keep your eye out for rustling bushes and background noises, there are extra points

to be earned for reacting quickly. Game Center achievements and leaderboards add to the fun—you won't be able to resist trying just that once more to improve your high score! ✉

- Jamshed Avari



GAME

Super 7

\$0.99

iPhone, iPod touch, iPad; iOS 3.0

OVERALL RATING ★★★★☆

Math meets physics in this neat puzzle game that tests your reflexes as well as your arithmetic! Your job is to guide numbered tiles around the screen so that they collide into each other, adding up to no more than 7. It's easy

at first, but when the screen gets a bit too crowded, you'll find them bumping into each other on their own, often with disastrous consequences. Simple equations that get you to 7 are okay, but you get bonus points for each tile you add to a sum. As you progress, negative numbers, multipliers and other mathematical operators come into play, allowing for some pretty convoluted operations. If that isn't tough enough, XL mode gives you a much bigger

canvas with loads more tiles on screen at a time, and there are achievements to be earned. This is one of those simple, addictive games that'll have you stabbing at your screen for hours. ✉

- Jamshed Avari



SECURITY

MicroMCS

Rs 250

Android; Size: 1.05 MB

OVERALL RATING ★★★★★

MicroMCS is a security solution designed to track stolen mobile phones. This app is downloadable from the Android Market and requires registration to function. During registration, you're prompted to input the license key and details such as name, email address, and two mobile phone numbers to which theft alerts can be sent. The app is functional after entering the activation key which is sent by SMS. It runs in the background and monitors the change of SIM cards. If a different SIM card is inserted, an SMS alert is sent to the



specified recipients mentioning the phone number, network information and GPS details. Commands can also be sent from the recipients' phones to the stolen phone to delete contacts, gallery contents and SMS. We tested the Android version and it worked perfectly. 📱

- Anand Tuliani

GAME

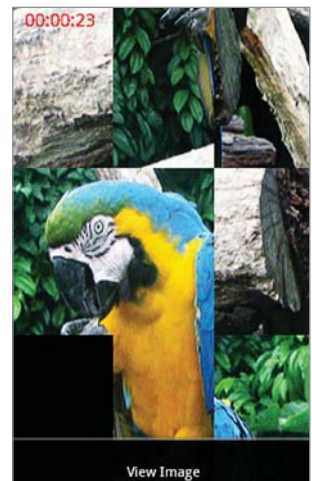
Easy Puzzle

Free

Android; Size: 1.63 MB

OVERALL RATING ★★★★★

This puzzle-solving game can be a great way to pass time. It displays a full-screen picture which gets scrambled into movable blocks when you select Jumble from the menu. The number of blocks depends on the level of difficulty you've selected. You have to skilfully slide the blocks to the right places to solve the puzzle. You can switch to the original picture for reference while solving the puzzle. The number of moves used to solve the puzzle and the time taken is logged and displayed in the high score list. The game offers two



pictures that can be selected as puzzles and these change every month. The Android Market has many similar games, and this could have been more interesting if there were more puzzles or if the user could choose photos of his/her choice as puzzles. 📱

- Anand Tuliani

SYSTEM TOOLS

Wi-Fi Rabbit

Free

Android v 2.1 and above

OVERALL RATING ★★★★★

Wi-Fi Rabbit shows you the state of your Wi-Fi connectivity in the form of a desktop icon. A simple tap on the widget pulls up the app in a small window, where you can switch on or off your wireless radio instantly. Another tap on this window shows you a list of remembered access points/routers and you can then select the desired AP you wish to connect to. When the Wi-Fi radio is turned off, the rabbit icon shows it as asleep, and when Wi-Fi is on, the rabbit ears animate and stay upright. You can also toggle



the widget as a cat, and in the paid version, you can also set different colors. The app also displays SSID, status, link speed, signal strength, security and IP address. It's a useful app for those who prefer to hide their notification bar and those who want to switch between APs easily. 📱

- Francis D'sa

SYSTEM TOOLS

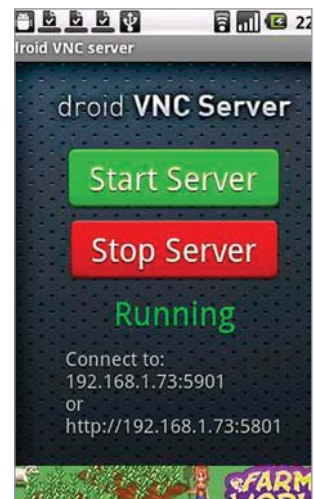
Droid VNC Server Beta

Free

Android v 1.5 and above

OVERALL RATING ★★★★★

Using Droid VNC Server, you can take complete control of your Android phone using your desktop. It makes uses of the wireless network and can also be used on mobile Internet or across the globe if the IP address is live. The app activates the server module and one can take control using a VNC client application on the desktop PC or using a Web interface using any browser. It supports password authentication, rotate and scale, mouse and keyboard emulation and clipboard support. All you need is a



rooted device, and this app. Send SMS or emails, browse websites, or tweak your Android device faster using your mouse on the desktop PC. You can even control your phone using another Android, Windows or Symbian based phone using Wi-Fi. 📱

- Francis D'sa

Long Term Test

The CHIP Test Center steps out into the real world!

NETBOOK

Acer Aspire One Happy

I've tested several netbooks, but never had a long stint with one. I recently went on a short vacation and my biggest concern was copying photos from my camera's memory card after it was full. I didn't want to carry a bulky laptop, so, I threw the Acer Aspire One Happy into my backpack. This tiny fella runs on an Intel Atom N455 CPU and comes with 1 GB of RAM and a 320 GB hard disk, which is standard for netbooks these days.



My journey with the netbook started when I pulled it out to watch a movie. I tried playing a 1080p movie; the Happy wasn't too happy. Now, this is down to the single-core Atom CPU. I knew it would struggle, but I wanted to get an idea of how badly. 720p videos played just fine. This is why the Nvidia Ion chipset and the new AMD Fusion platform work wonders. With the Happy, CPU utilization was continuously above 90 percent, but with an Nvidia Ion or AMD E-350 APU, the CPU graph stays below 10 percent. The Happy's volume level and audio quality were also not up to the mark. Considering these issues, the Toshiba NB520 with a dual-core Atom N550 CPU and excellent Harman/Kardon speakers would have been a better travelling companion.

The next day, I came back with a full memory card after shooting with my trusty 8-megapixel Canon EOS 30D. The netbook was a big relief; after transferring the photos to the netbook, I started browsing through them. I guess opening high resolution photos was also too taxing for the Atom N455. I had no choice but to be patient for images to display. I didn't even try cropping them or performing basic corrections. I also realised that the keyboard is an important component of a netbook. I wasn't too comfortable with the keyboard on the Aspire One Happy because of my large hands. My fingers felt too stressed. The Dell Inspiron Mini 10 has a much larger and more comfortable keyboard.

I learnt that to be fully happy, my netbook would have to have a dual-core Atom and Ion or an AMD Fusion APU. A large keyboard and good speakers are most welcome. Sadly, no single netbook on the market has all these features. ☐

- Anand Tuliani

FILE MANAGER

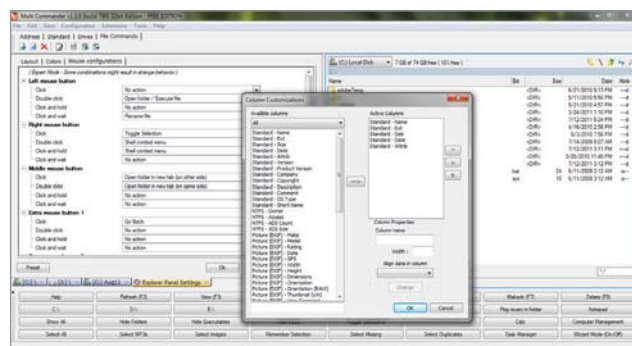
Multi Commander

Even multi-terabyte drives today get filled far too quickly. At home, music, videos and applications that are freely available online just accumulate indefinitely, and even at work, not a month passes by without at least 100 images, text documents, PDF and spreadsheets piling up. Sorting and storing them all has become a huge pain, not to mention searching through the whole pile to find something that might be needed at some indefinite point in the future. To make matters worse, computers these days seem intent on hiding the file system from end users, in an attempt to make them simpler and more friendly.

For those who like jumping into their systems' guts and getting their hands wet, Multi Commander will be a godsend. It harkens back to the days of typing at a command prompt, and can be customized in dozens of ways to suit your workflow. At the very least, having two panes side by side makes copying and comparing folders a lot easier. Digging deeper, you'll find the 48 shortcut buttons on the bottom and the hundreds of predefined keyboard shortcuts indispensable. Thankfully, there's only your basic disk structure to navigate, no concepts of Libraries or OS-level virtual spaces. Each pane can host multiple tabs, you can trigger destination folders to open in the opposite pane.

Some of the usage conventions seemed a bit odd, such as right-clicking to select files and hitting [F2] to refresh rather than [F5]. I got used to them after a while, but there is also a setting to make Multi Commander respect Windows' defaults. Multi Commander has made my life easier by calculating the size of a folder's contents, identifying missing files in folders, handling ZIP archives, filtering a view by filetype, and allowing selections files based on name or extension. More exotic features include IMDB metadata lookups, FTP, and even one-click access to specific Windows registry branches. Best of all, it's totally free! ☐

- Jamshed Avari





Canon PowerShot SX230 HS
Rs 20,995

www.canon.co.in

VERDICT A great compact travel camera which delivers incredible performance.

LOVE 1920x1080 videos, built-in GPS, slow motion videos look great.

HATE Flash pops up everytime the camera is switched on.

SPECIFICATIONS

Weight: 223 g; Resolution: 12.1 MP; Focal length: 28-392 mm; Optical zoom: 14x; Aperture: F3.1-F5.9; Screen: 3-in, 461K dots; Video: 1920x1080 @24fps.

ANAND'S PICKS

COMPACT MEGAZOOM CAMERAS

Capture precious moments indoors or shoot wide landscapes and distant scenes without having to carrying bulk.

Panasonic Lumix DMC-TZ18
Rs 16,990

www.panasonic.co.in

VERDICT A combination of rich feature set, stellar performance and good ergonomics.

LOVE Very good performance, easy to use, good zoom starting at 24 mm.

HATE Built-in GPS would have been nice.

SPECIFICATIONS

Weight: 210 g; Resolution: 14.1 MP; Focal length: 24-384 mm; Optical zoom: 16x; Aperture: F3.3-F5.9; Screen: 3-in, 230K dots; Video: 1280x720 @30fps.

Samsung WB650
Rs 17,990

www.samsung.com/in

VERDICT Offers a good feature set for its price but it needs to perform better.

LOVE High-resolution AMOLED display, built-in GPS, 24 mm wide angle.

HATE Full HD video recording would have been a treat.

SPECIFICATIONS

Weight: 245 g; Resolution: 12 MP; Focal length: 24-360 mm; Optical zoom: 15x; Aperture: F3.2-F5.8; Screen: 3-in, 614K dots; Video: 1280x720 @30fps.

Sony Cyber-shot DSC-H70
Rs 13,990

www.sony.co.in

VERDICT Good performance and fun features at a very attractive price.

LOVE Great value for money, Sweep Panorama for ultra-wide shots.

HATE Tiny buttons and mode selection dial, zoom motor noise picked in videos.

SPECIFICATIONS

Weight: 194 g; Resolution: 16.2 MP; Focal length: 25-250 mm; Optical zoom: 10x; Aperture: F3.5-F5.5; Screen: 3-in, 230K dots; Video: 1280x720 @30fps.

Olympus μ 9010
Rs 9,999

www.olympus-imaging.co.in

VERDICT An affordable compact megazoom with great features for casual shooting.

LOVE 2 GB internal memory, 720p video recording is a bonus for its price.

HATE No manual exposure control.

SPECIFICATIONS

Weight: 225 g; Resolution: 12 MP; Focal length: 28-280 mm; Optical zoom: 10x; Aperture: F3.2-F5.9; Screen: 2.7-in, 230K dots; Video: 1280x720 @30fps.



WOULD YOU BUY A LAPTOP INSTEAD OF A DESKTOP PC FOR HOME USE?

ANAND TULI, DEPUTY EDITOR - TECHNICAL

BUDGET-FRIENDLY LAPTOPS

Components are shrinking in size, and at the same time, they are becoming more powerful generation after generation.

The shrink in size and use of alternate components are bringing down the cost of PCs, laptops, digital cameras and cellphones. Every year, when companies refresh their laptop lineups, the newer models are priced almost at par with their predecessors. So, at the same price, you get better features and performance.

I have been keeping a close watch on the laptop market and there's a lot of action going on. Earlier, my colleagues and friends used to approach me for PC configurations. With the prices of entry-level laptops now almost at par with desktop PCs, I now get frequent queries regarding laptops. Many people are going in for laptops instead of desktop PCs, and it makes a lot of sense, especially if your computing needs are very basic. Laptops are portable, less power consuming, space saving and they all have built-in Wi-Fi and Bluetooth adapters and webcams.

Before recommending models, I first ask the user whether portability is important or will he/she be using the laptop mostly at the desk. Fourteen-inch models are more compact and easier to carry than the bulky 15.6-inch models. The latter are more ideal for home use because of a larger viewing area and wrist rest. Also, numeric keypad is a common feature of 15.6-inch models because they are much broader. Then we move to the budget and the applications that will be used. Entry-level models

powered by dual-core Intel Pentium processors are for those who are on a shoestring budget, while models powered by an Intel Core i3 or Core i5 processor are for those who are willing to spend a few thousand Rupees extra for better performance. These laptops have the power for seamless multitasking and demanding applications.

When it comes to budget laptops, I prefer brands like Lenovo, Acer, Samsung and HP, which offer ultra-budget models priced around Rs 23,000. The most basic models powered by Intel Pentium P6100 processor, 1 GB RAM and 320 GB hard disk cost Rs 20,000, but I suggest spending Rs 3000 extra for more RAM (at least 2 GB) and storage space (at least 320 GB). For example, the 14-inch Lenovo G460 59-057056, which costs Rs 22,990. It's powered by Intel Pentium P6200 CPU, 2 GB RAM and 500 GB hard disk. The Acer Aspire 4738z offers the same configuration for around the same price. If you want a 15.6-inch model, consider the Lenovo G560 or Samsung RV509-A07IN which cost Rs 24,000. If performance is your priority, be willing to spend at least Rs 30,000 for an Intel Core i3 (Sandy Bridge) powered laptop such as the Lenovo G570, Acer Aspire 5750 or HP Pavilion G6-1001TU. Go to a mall and get a look and feel of the model that interests you to assess the build quality and ergonomics. 

- anand.tuliani@chip.in

14-INCH MODELS ARE CONVENIENT TO CARRY, WHEREAS 15.6-INCH MODELS ARE IDEAL FOR THE DESK.



PC CONFIGS

GAMING - ENTRY-LEVEL **Rs 44,440**

Processor	AMD Phenom II X4 955 Black Ed, 3.3 GHz	5,900
Motherboard	Asus M4A88T-M, AMD 880G	5,100
RAM	2 GB Zion DDR3-1333 MHz	1,200
Hard disk	Seagate Barracuda 7200.12 - 1 TB SATA	2,900
Graphics card	Sapphire Radeon HD 5770 - 1 GB DDR5	7,300
Optical drive	LG GH22 SATA 22x DVD-writer	950
Monitor	Dell IN2020M LED - 20-inch LCD	6,700
Keyboard	Logitech G1 Gaming Desktop	1,700
Mouse	Included in Combo	-
Speakers	F&D FD600	2,990
Sound card	Onboard high-definition audio	-
PC Case	Cooler Master Elite 310	1,800
Power supply unit	Cooler Real Power Pro - 460W	3,600
Operating system	Windows 7 Home Basic	4,300
TOTAL		44,440

GAMING - MID-RANGE **Rs 77,900**

Processor	AMD Phenom II X6 1055T, 2.8 GHz	7,900
Motherboard	Gigabyte GA-890GPA-UD3H, AMD 890GX	8,800
RAM	G.Skill Rip Jaws F3-12800CL9D - 2 x 2GB	2,300
Hard disk	Western Digital Caviar Black - 1 TB	4,500
Graphics card	Zotac GeForce GTX 560 Amp! - 1 GB GDDR5	12,000
Optical drive	LG GH22 SATA 22x DVD-writer	950
Monitor	BENQ G2420 HD - 24-inch TFT	12,500
Keyboard	Microsoft Comfort Curve 2000	950
Mouse	Razer Salmosa	1,700
Speakers	Altec Expressionist Ultra MX6021	7,500
Sound card	Asus Xonar DX 7.1-channel	5,000
PC Case	Cooler Master Elite 430	2,800
Power supply unit	Corsair CMPSU-550VX - 550 Watts	4,800
Operating system	Windows 7 Home Premium	6,200
TOTAL		77,900

HOME **Rs 28,190**

Processor	AMD Athlon X2 260, 3.20 GHz	3,300
Motherboard	Gigabyte 880GM-USB, AMD 880G	5,400
RAM	2 GB Zion DDR3-1333 MHz	1,200
Hard disk	Western Digital Caviar Blue - 500 GB SATA	2,100
Graphics card	Onboard graphics	-
Optical drive	LG GH22 SATA 22x DVD-writer	950
Monitor	Samsung SyncMaster B2030N - 20-inch TFT	6,600
Keyboard and mouse combo	Logitech Deluxe 250 Desktop USB	795
Speakers	Altec Lansing VS2621	1,895
Sound card	Onboard high-definition audio	-
PC Case	iBall Pride	1,650
Power supply unit	Included with the PC Case - 250 Watts	-
Operating system	Windows 7 Home Basic	4,300
TOTAL		28,190

HTPC **Rs 94,495**

Processor	AMD Athlon II X4 640, 3.00 GHz	4,900
Motherboard	Asus M4A88TD-M EVO/USB3	6,300
RAM	2x 2 GB Kingston DDR3-1333 MHz	2,300
Hard disk	Western Digital Caviar Blue - 1 TB	3,000
Graphics card	Sapphire Radeon HD 6570, 1 GB	4,800
Optical drive	Sony BD-5300S, 12x Blu-ray Writer	11,000
Monitor	BenQ V2400 Eco, 24-inch TFT (LED)	16,900
Keyboard and mouse combo	Logitech Wireless Combo MK320	1,795
Speakers	Creative Gigaworks T3	15,000
Sound card	Asus Xonar DX 7.1-channel	5,000
PC Case	Silver Stone LC16B MR220	11,800
Power supply unit	Corsair CMPSU-430CX - 430 Watts	2,200
TV tuner card	Avermedia AverTV Speedy PCIE	3,300
Operating system	Windows 7 Home Premium	6,200
TOTAL		94,495

LAPTOP CONFIGS

MAINSTREAM

PROCESSOR	Intel Core i3, Intel Core i5
MEMORY	2 GB or 3 GB
HARD DRIVE	320 GB or higher
DISPLAY	14.1-in or 15.6-in
GRAPHICS	On-board or Discrete
WEIGHT	2.3 Kg to 3 Kg
OTHER	Bluetooth, DVD-writer, Wi-Fi b/g or n, Webcam
PRICE RANGE	Rs 35,000 To Rs 45,000



SONY VAIO VPCEB44EN

Rs 34,990

CPU Intel Core i3-380M, 2.53 GHz; **MEMORY** 3 GB; **HARD DISK** 320 GB; **DISPLAY** 15.6-in; **GRAPHICS** ATI Mobility Radeon HD 5470, 512 MB; **WEIGHT** 2.7 Kg; **OS** Windows 7 Home Premium; **OTHER** Bluetooth, Wi-Fi, HDMI, eSATA



LENOVO IDEAPAD Z570 59-069601

Rs 37,990

CPU Intel Core i3-2310M, 2.10 GHz; **MEMORY** 3 GB; **HARD DISK** 640 GB; **DISPLAY** 15.6-in; **GRAPHICS** Nvidia GeForce GT 520M, 1 GB; **WEIGHT** 2.6 Kg; **OS** Windows 7 Home Basic; **OTHER** Bluetooth, Wi-Fi, Webcam, HDMI



ACER ASPIRE 5750G

Rs 41,199

CPU Intel Core i3-2310M, 2.10 GHz; **MEMORY** 2 GB; **HARD DISK** 500 GB; **DISPLAY** 15.6-in; **GRAPHICS** Nvidia GeForce GT 540M, 1 GB; **WEIGHT** 2.5 Kg; **OS** Windows 7 Home Basic; **OTHER** Bluetooth, Wi-Fi, Webcam, HDMI



DELL INSPIRON 15R

Rs 41,000

CPU Intel Core i3-2310M, 2.10 GHz; **MEMORY** 4 GB; **HARD DISK** 500 GB; **DISPLAY** 15.6-in; **GRAPHICS** On-board; **WEIGHT** 2.65 Kg; **OS** Windows 7 Home Basic; **OTHER** Bluetooth, Wi-Fi, HDMI, USB 3.0

NETBOOK

PROCESSOR	Intel Atom Single / Dual-core, AMD Fusion
MEMORY	1 GB to 2 GB
HARD DRIVE	160 GB or higher
DISPLAY	10-in or 11.6-in
GRAPHICS	On-board
WEIGHT	1 Kg to 1.5 Kg
OTHER	Bluetooth, Wi-Fi, Webcam, Card reader
PRICE RANGE	Rs 15,000 to Rs 30,000



ACER ASPIRE ONE HAPPY

Rs 15,800

CPU Intel Atom N455, 1.66; **MEMORY** 1 GB; **HARD DISK** 320 GB; **DISPLAY** 10.1-in; **GRAPHICS** On-board; **WEIGHT** 1.25 Kg; **OS** Windows 7 Starter; **OTHER** Bluetooth, Wi-Fi, Webcam, Card reader



SAMSUNG N150-JP0GIN

Rs 17,000

CPU Intel Atom N550 (dual-core), 1.5 GHz; **MEMORY** 1 GB; **HARD DISK** 250 GB; **DISPLAY** 10.1-in; **GRAPHICS** On-board; **WEIGHT** 1.24 Kg; **OS** Windows 7 Starter; **OTHER** Bluetooth, Wi-Fi, Webcam, Card reader



HP MINI 110-3612TU

Rs 19,500

CPU Intel Atom N570 (dual-core), 1.66 GHz; **MEMORY** 2 GB; **HARD DISK** 320 GB; **DISPLAY** 10.1-in; **GRAPHICS** On-board; **WEIGHT** 1.4 Kg; **OS** Windows 7 Starter; **OTHER** Bluetooth, Wi-Fi, Webcam, Card reader



LENOVO S10-3S

Rs 20,500

CPU Intel Atom N475, 1.83 GHz; **MEMORY** 2 GB; **HARD DISK** 250 GB; **DISPLAY** 10.1-in; **GRAPHICS** On-board; **WEIGHT** 1.3 Kg; **OS** Windows 7 Starter; **OTHER** Bluetooth, Wi-Fi, Webcam, Card reader

DESKTOP REPLACEMENT

PROCESSOR	Intel Core i5, Intel Core i7
MEMORY	3 GB or more
HARD DRIVE	500 GB or more
DISPLAY	15.4-in to 17-in
GRAPHICS	GeForce GT435M or higher, Radeon HD 5650 or higher
WEIGHT	2.5 Kg to 5 Kg
OTHER	Bluetooth, DVD-writer or Blu-ray, Wi-Fi n, Webcam, TV Tuner
PRICE RANGE	Rs 45,000 to Rs 1,50,000



HP PAVILION DV6-6121TX

Rs 55,000

CPU Intel Core i7-2630M, 2.0 GHz; **MEMORY** 4 GB; **HARD DISK** 640 GB; **DISPLAY** 15.6-in; **GRAPHICS** ATI Mobility Radeon HD 6770M, 2 GB; **WEIGHT** 2.63 Kg; **OS** Windows 7 Home Premium; **OTHER** Bluetooth, Wi-Fi, Webcam, HDMI



LENOVO IDEAPAD Y560 59-055616

Rs 55,990

CPU Intel Core i7-740M, 2.4 GHz; **MEMORY** 4 GB; **HARD DISK** 500 GB; **DISPLAY** 15.6-in; **GRAPHICS** ATI Mobility Radeon HD 5730, 1 GB; **WEIGHT** 2.6 Kg; **OS** Windows 7 Home Premium; **OTHER** Bluetooth, Wi-Fi, Webcam, HDMI



SONY VAIO VPCCB17FG/B

Rs 69,990

CPU Intel Core i7-2620M, 2.7 GHz; **MEMORY** 4 GB; **HARD DISK** 640 GB; **DISPLAY** 15.5-in, Full HD; **GRAPHICS** AMD Radeon HD 6630, 1 GB; **WEIGHT** 2.85Kg; **OS** Windows 7 Home Premium; **OTHER** Bluetooth, Wi-Fi, Webcam, HDMI



DELL XPS 17 (3D)

Rs 85,800

CPU Intel Core i7-2630QM, 2 GHz; **MEMORY** 4 GB; **HARD DISK** 500 GB; **DISPLAY** 17.3-in, Full HD; **GRAPHICS** Nvidia GeForce GT 555M; **WEIGHT** 3.43 Kg; **OS** Windows 7 Home Premium; **OTHER** 3D Glasses, BD-ROM, HDMI, Bluetooth

CHIP CPU-GPU Guide

The CHIP guide provides you the necessary perspective on the processors and graphics chips market.

BY MICHAEL ECKSTEIN AND ANAND TULIANI

A AMD has announced the launch of its new Fusion processor (codenamed Llano) which has both the CPU and GPU cores on a single chip. In the beginning of the third quarter, the first notebooks with APUs will be available. Next, will be the launch of the desktop variant "Bulldozer". Even before the APUs have launched, motherboards for the new processors are already out in the market. At Computex in Taiwan, motherboard giants such as Gigabyte, MSI and ECS had models with the new socket and chipset on display. We are excited to see how the new APUs and motherboards will fare in our tests.

Graphics Chips: After the launch of high-end and mid-range graphics chips, AMD now has the entry-level and

mainstream graphics chips out. The latest additions to the Radeon HD 6000 series are the HD 6570 and HD 6770. The latter is a spin-off of the Radeon HD 5770 and is on par with the Nvidia GeForce GTX 550 Ti, but costs Rs 2,000 less. However, the Radeon HD 6850 offers the best value for money. It's elder sibling, the HD 6870 benefits from higher core speed and lies in the upper mid-range segment.

Desktop and Mobile CPUs: In the current desktop CPUs scenario, Intel's Sandy Bridge processors still call the shots in the mid-range and high-end segments. The Intel Core i5-2500K is a new entrant and sits high up at the fourth position indicating it's a great performer. Those who want more power can opt for the Core i7-2600K which

is just a notch below the Core i7-990X Extreme which comes in the LGA 1366 package and requires an Intel X58 chipset motherboard. The Core i3-2100 is our top recommendation for budget-friendly mid-range PCs. AMD currently has no mobile CPUs that can compete with the latest generation Core i5 and Core i7 CPUs. Laptops with the quad-core Core i7-2820QM and Core i7-2720QM are incredibly powerful. The ones powered by the latter offer very good value for money and are priced around Rs 65,000. Buy one of these if you want a powerful gaming laptop or something that can handle demanding applications like Photoshop with great ease. 

- feedback@chip.in



DESKTOP CPUs

Rank	Processor	Code name	Performance Index	Socket type	Number of CPU cores	Clock speed (GHz)	L2 cache (MB)	Bus speed	Production process (nm)	Number of transistors (million)	Max. power loss (TDP in Watts)	PCMark Vantage Audio transcoding*	IT III 1280 x 1024 (fps)	Video encoding Gorilla knot (sec.)	Cinebench P10 max. CPUs (sec)
1	Intel Core i7-990X XE	Gulftown	100.0	1366	6	3.46	1.5	QPI 6400	32	1170	130	1159	142	185	39
2	Intel Core i7-2600K	Sandy	96.9	1155	4	3.40	1	DMI 5000	32	995	95	1352	143	172	48
3	Intel Core i7-970	Gulftown	95.2	1366	6	3.20	1.5	QPI 6400	32	1170	130	1137	140	197	42
4	Intel Core i5-2500K	Sandy	91.7	1155	4	3.30	1	DMI 5000	32	995	95	1311	140	176	54
5	Intel Core i7-875K	Lynnfield	84.8	1156	4	2.93	1	DMI 2500	45	774	95	1096	138	195	56
6	AMD Phenom II X6 1100T BE	Thuban	80.5	AM3	6	3.30	3	HT 4000	45	904	125	1014	133	213	58
7	AMD Phenom II X6 1090T BE	Thuban	77.8	AM3	6	3.20	3	HT 4000	45	904	125	922	131	215	60
8	Intel Core i5-760	Lynnfield	77.3	1156	4	2.80	1	DMI 2500	45	774	95	1085	138	203	72
9	AMD Phenom II X6 1075T	Thuban	75.2	AM3	6	3.00	3	HT 4000	45	904	130	942	126	228	64
10	Intel Core i7-860	Lynnfield	75.2	1156	4	2.80	1	DMI 2500	45	774	95	901	137	230	63
11	AMD Phenom II X4 975 BE	Deneb	73.8	AM3	4	3.60	2	HT 4000	45	758	125	993	136	213	75
12	Intel Core i7-920	Bloomfield	72.8	1366	4	2.67	1	QPI 4800	45	731	130	881	135	240	66
13	AMD Phenom II X4 970 BE	Deneb	71.9	AM3	4	3.50	2	HT 4000	45	758	125	952	134	220	77
14	AMD Phenom II X6 1055T	Thuban	70.8	AM3	6	2.80	3	HT 4000	45	904	125	829	123	235	69
15	Intel Core i5-2400	Sandy	69.7	1155	4	3.10	1	DMI 5000	32	995	95	860	138	258	71
16	Intel Core i3-2100	Sandy	69.4	1155	2	3.10	0.5	DMI 5000	32	504	65	1065	121	216	96
17	Intel Core 2 Quad Q9550	Yorkfield	66.9	775	4	2.83	12	FSB 1333	45	820	95	881	126	263	79
18	Intel Core i3-550	Clarkdale	65.7	1156	2	3.20	0.5	DMI 2500	32	382	73	993	120	232	103
19	Intel Core i5-650	Clarkdale	65.3	1156	2	3.20	0.5	DMI 2500	32	382	73	1065	116	258	101
20	AMD Athlon II X4 645	Propus	62.3	AM3	4	3.10	2	HT 4000	45	300	95	829	110	259	94
21	AMD Phenom II X2 565 BE	Callisto	60.0	AM3	2	3.40	1	HT 4000	45	758	80	922	115	227	145
22	AMD Athlon II X3 450	Rana	59.4	AM3	3	3.20	1.5	HT 4000	45	300	95	850	110	252	119
23	AMD Phenom II X2 560 BE	Callisto	58.9	AM3	2	3.30	1	HT 4000	45	758	80	901	112	232	149
24	AMD Athlon II X4 630	Propus	58.2	AM3	4	2.80	2	HT 4000	45	300	95	758	105	282	103
25	Intel Core 2 Quad Q8300	Yorkfield	58.2	775	4	2.50	4	FSB 1333	45	456	95	778	106	324	94
26	AMD Athlon II X3 445	Rana	58.0	AM3	3	3.10	1.5	HT 4000	45	300	95	819	109	259	123
27	Intel Core i3-540	Clarkdale	57.6	1156	2	3.06	0.5	DMI 2500	32	382	73	829	111	299	111
28	Intel Core 2 Duo E7600	Wolfdale	57.0	775	2	3.07	3	FSB 1066	45	228	65	942	93	275	138
29	AMD Athlon II X2 265	Regor	56.7	AM3	2	3.30	2	HT 4000	45	234	65	891	95	245	154
30	AMD Sempron 140	Sargas	36.1	AM3	1	2.70	1	HT 4000	45	234	45	532	78	463	366

* in KB/s



MOBILE CPUs

Rank	Processor	Core-code name	Performance index Standardized to 100	No of CPU cores	Clock Speed (GHz)	L2 Cache (MB)	Bus Speed	Max. power loss (TDP in Watts)	0 runtime with 60 Wh battery (min)	PCMark05 CPU (points)	Cinebench 9.5.1 x CPU (fps)	Cinebench 9.5.4 x CPU (fps)	3D Mark05 CPU (points)	3D Mark01 (default) chess graphic	3D Mark01 (default) GeForce 320M GT	3D Mark01 (default) GeForce 330M GT
1	Intel Core i7-2820QM	Sandy Bridge	100.0	4	2.30	8	DMI 5000	45	120	11391	805	2859	22400	12500	28000	42000
2	Intel Core i7-2720QM	Sandy Bridge	94.8	4	2.20	6	DMI 5000	45	120	9969	797	2706	22100	12000	27500	41000
3	Intel Core i7-2630QM	Sandy Bridge	87.5	4	2.00	6	DMI 5000	45	120	9604	695	2363	21800	11500	27000	40000
4	Intel Core i5-2520M	Sandy Bridge	81.1	2	2.50	3	DMI 5000	35	154	9168	719	1935	19882	11250	26000	37000
5	Intel Core i5-2410M	Sandy Bridge	73.2	2	2.30	3	DMI 5000	35	98	8340	707	1452	19695	11000	25000	36000
6	Intel Core i7-920XM	Clarksfield	65.4	4	2.00	8	DMI 2500	55	120	7955	623	1563	13876	—	22000	35000
7	Intel Core i7-820QM	Clarksfield	63.7	4	1.73	8	DMI 2500	45	120	7725	611	1494	13670	—	21500	34500
8	Intel Core i7-740QM	Clarksfield	63.1	4	1.73	6	DMI 2500	45	154	7648	599	1501	13554	—	21000	34000
9	Intel Core i7-620M	Arrandale	62.2	2	2.67	3	DMI 2500	35	154	7105	663	1339	13950	8500	20000	33000
10	Intel Core i5-520M	Arrandale	57.6	2	2.40	3	DMI 2500	35	154	6803	576	1187	13851	8300	19000	32000
11	Intel Core 2 Duo T9900	Penryn	52.9	2	3.07	6	FSB 1066	35	154	6922	558	1034	11487	7900	17500	29000
12	Intel Core i7-640LM	Arrandale	51.6	2	2.13	4	DMI 2500	25	216	7027	513	1003	11531	7900	17200	28500
13	Intel Core i3-370M	Arrandale	48.9	2	2.40	3	DMI 2500	35	154	5713	466	998	12587	7800	17000	28000
14	AMD Phenom II X4 N930	Danube	47.3	4	2.00	2	HT 1800	35	154	6020	338	1072	13481	5750	16800	27500
15	Intel Core 2 Duo P9500	Penryn	46.6	2	2.53	6	FSB 1066	25	216	6514	467	854	10631	5700	16200	27000
16	Intel Core 2 Duo SP9600	Penryn	46.3	2	2.53	6	FSB 1066	25	216	6512	464	847	10551	5600	15900	26500
17	Intel Core 2 Duo P8700	Penryn	44.6	2	2.53	3	FSB 1066	25	216	5866	469	836	10075	5400	15300	25500
18	Intel Core i5-2537M	Sandy Bridge	44.0	2	1.40	3	DMI 5000	17	318	5122	445	754	12803	7600	16900	28000
19	Intel Core i7-620UM	Arrandale	39.7	2	1.07	3	DMI 2500	18	300	5076	430	811	8205	6500	—	—
20	AMD Phenom II X4 P920	Danube	38.2	4	1.60	2	HT 1800	25	216	4810	271	894	10755	5050	13000	22000
21	Intel Core 2 Duo T6500	Penryn	33.9	2	2.10	2	FSB 800	35	154	4401	369	695	6889	4900	11600	19000
22	Intel Core i5-520UM	Arrandale	31.4	2	1.07	3	DMI 2500	18	300	3812	369	553	7350	6300	—	—
23	Intel Core i3-330UM	Arrandale	26.7	2	1.07	3	DMI 2500	18	300	3642	247	514	6500	6100	—	—
24	AMD E-350	Zacate	21.3	2	1.60	1	CCI 25 GB	18	300	2800	216	398	4989	9000	—	—
25	Intel Pentium SU4100	Penryn	20.9	2	1.30	2	FSB 800	10	480	3121	234	410	3715	4300	—	—
26	AMD Athlon Neo MV-40	Huron	17.6	1	1.60	0.5	HT 1800	15	360	2150	231	231	4951	3500	—	—
27	AMD C-50	Zacate	12.7	2	1.00	1	CCI 25 GB	9	600	1792	118	212	3422	7000	—	—
28	Intel Atom D525	Pineview	10.1	2	1.80	1	FSB 800	13	415	2145	101	265	1055	3100	—	—
29	Intel Atom N550	Pineview	9.6	2	1.50	1	FSB 800	8.5	635	2142	95	234	1050	3100	—	—
30	Intel Atom N450	Pineview	7.7	1	1.67	0.5	FSB 667	5.5	800	1497	93	139	1070	3100	—	—

¹ Mobile CPUs come preinstalled in laptops

² Typical runtime with integrated graphics, powerful discrete GPUs reduce runtime by 40 percent.

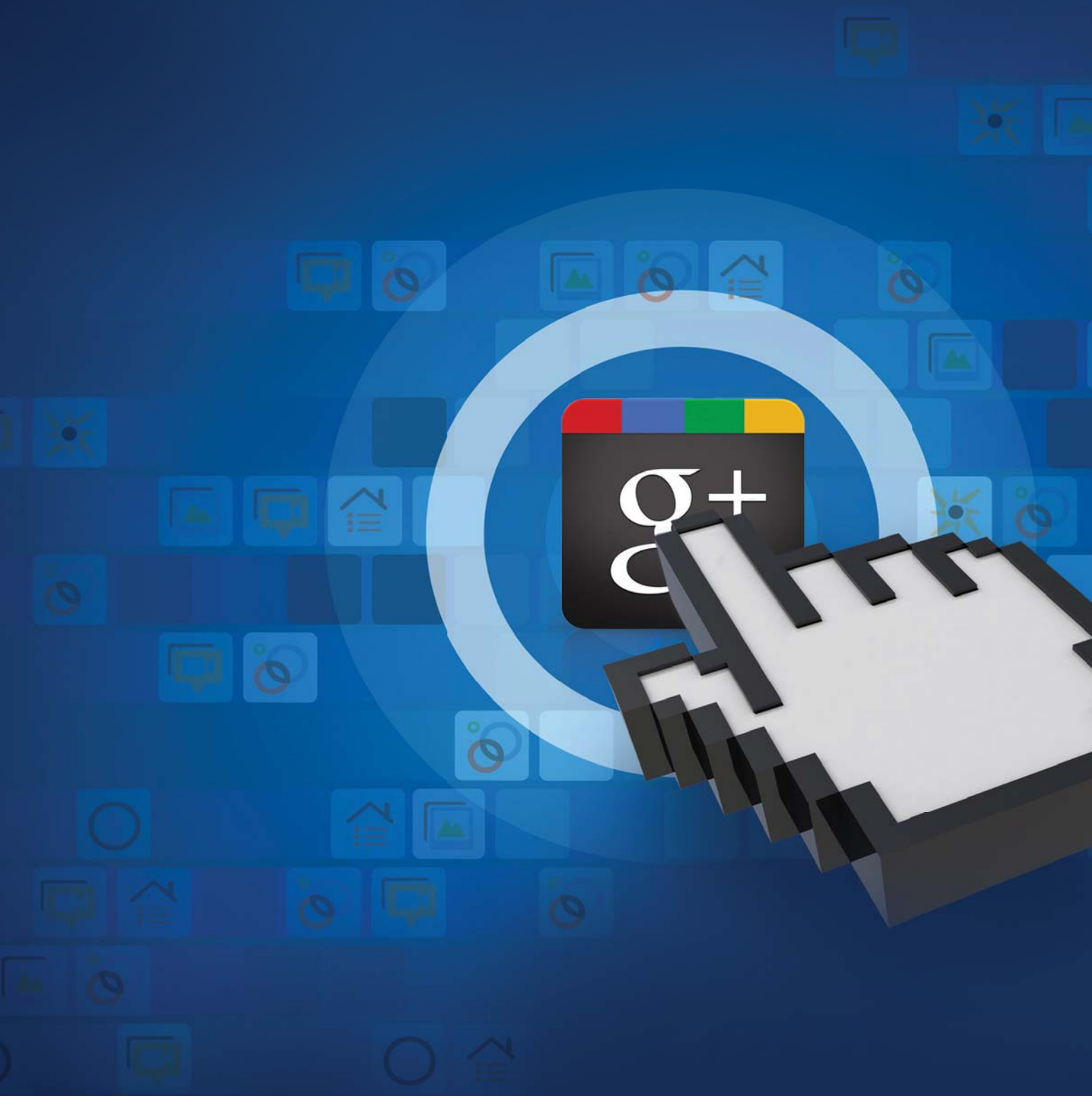


GRAPHICS CHIPS

Rank	Graphics chip	Memory size (MB)	Performance index	VFM Index	Core speed (MHz)	Shader speed (MHz)	Memory speed (nominal in MHz)	Memory bus width (Bit)	Stream Processors	Production process (nm)	Transistors (Millions)	Max. power loss (TDP in Watts)	Crysis (fps)	Enemy territory: Quake wars (fps)	World in Conflict (fps)	3D Mark Vantage (points)
1	nVidia GeForce GTX 590	2 x 1.536/GDDR5	100.0	47.6	612	1244	3420	2 x 384	1024	40	6000	375	78	38	102	19238
2	AMD Radeon HD 6990	2 x 2.048/GDDR5	99.0	51.3	880	—	5000	2 x 256	3072	40	5280	450	65	66	87	18330
3	AMD Radeon HD 5970	2 x 1.024/GDDR5	80.0	57.6	725	—	4000	2 x 256	3200	40	4300	294	60	51	63	13768
4	nVidia GeForce GTX 580	1.536/GDDR5	72.0	44.3	772	1544	4008	384	512	40	3000	244	59	24	80	13135
5	AMD Radeon HD 6970	2.048/GDDR5	64.3	67.7	880	—	5500	256	1536	40	2640	250	51	35	59	10768
6	nVidia GeForce GTX 570	1.280/GDDR5	61.0	56.3	732	1464	3800	320	480	40	3000	219	52	18	67	11137
7	AMD Radeon HD 6950	2.048/GDDR5	56.9	76.3	800	—	5000	256	1408	40	2640	140	45	31	53	9358
8	nVidia GeForce GTX 480	1.536/GDDR5	56.0	44.7	700	1401	3696	384	480	40	3200	320	48	20	63	9177
9	nVidia GeForce GTX 560 Ti	1.024/GDDR5	53.5	71.8	823	1645	4008	256	384	40	1950	180	45	18	60	9364
10	AMD Radeon HD 5870	2.048/GDDR5	51.1	39.7	850	—	4800	256	1600	40	2154	188	40	30	41	8830
11	AMD Radeon HD 6870	1.024/GDDR5	50.5	78.4	900	—	4200	256	1120	40	1700	151	40	30	50	7589
12	nVidia GeForce GTX 470	1.280/GDDR5	44.5	73.0	607	1215	3348	320	448	40	3200	215	39	15	51	7257
13	AMD Radeon HD 5850	1.024/GDDR5	44.3	52.4	725	—	4000	256	1440	40	2154	170	35	26	38	7280
14	AMD Radeon HD 6850	1.024/GDDR5	44.0	100.0	775	—	4800	256	960	40	1700	127	36	26	46	6104
15	nVidia GeForce GTX 295	2 x 896/GDDR3	43.0	30.2	576	1242	2016	2 x 448	240	55	2800	289	47	13	—	9221
16	nVidia GeForce GTX 465	1.024/GDDR5	36.6	54.1	607	1215	3206	256	352	40	3200	200	33	11	41	6082
17	nVidia GeForce GTX 460	768/GDDR5	35.6	52.5	675	1350	3600	192	336	40	1950	150	31	10	42	6015
18	nVidia GeForce GTX 550 Ti	1.024/GDDR5	31.5	71.5	930	1860	4200	192	192	40	1170	110	27	10	36	5297
19	ATI Radeon HD 5770	1.024/GDDR5	31.3	84.1	850	—	4800	128	800	40	1040	108	27	18	26	4711
20	ATI Radeon HD 4890	1.024/GDDR5	28.6	49.7	850	—	3900	256	800	55	959	157	28	20	—	4950
21	nVidia GeForce GTS 450	1.024/GDDR5	27.0	72.6	850	1700	3608	128	192	40	1170	106	23	9	30	4682
22	ATI Radeon HD 4870	1.024/GDDR5	26.8	65.8	750	—	3600	256	800	55	959	157	26	19	—	4605
23	AMD Radeon HD 5750	1.024/GDDR5	24.7	72.8	700	—	4600	128	720	40	1040	86	21	14	22	3725
24	ATI Radeon HD 4770	512/GDDR5	17.1	50.3	750	—	3200	128	640	40	826	90	16	11	—	3181
25	ATI Radeon HD 4830	512/GDDR3	14.2	46.7	575	—	1800	256	640	55	956	80	15	9	—	2404
26	nVidia GeForce GT 430	1.024/GDDR3	11.8	58.0	700	1400	1800	128	96	40	585	56	10	4	13	1903
27	AMD Radeon HD 5570	1.024/GDDR3	10.9	45.9	650	—	1600	128	400	40	627	43	9	5	13	1579
28	nVidia GeForce 9600 GT	512/GDDR3	10.2	33.5	650	1600	1800	256	64	65	505	95	12	4	—	1875
29	ATI Radeon HD 4670	512/GDDR3	9.3	36.6	750	—	2000	128	320	55	514	59	10	7	—	1334
30	AMD Radeon HD 5550	1.024/DDR2	5.8	21.6	550	—	800	128	320	40	627	45	5	3	5	837

■ Enthusiast (100–90.0) ■ High-end (89.9–75.0) ■ Mid-range (74.9–45.0)

■ Entry level (44.9–0) All valuations in points (max. 100)



Google+:

Have You +1'ed Yet?

Google reinvents its social side with the ambitious Google+ initiative that aims to overthrow Facebook.

BY KAMAKSHI S, PRIYANKA TILVE, KUSHAL MAMOOWALA

What Google is to search, Facebook is to social networking, but with the search engine giant launching Google+ - its attempt at tapping into the social networking phenomenon, it remains to be seen if this equation will change. Developed under the codename 'Project Emerald Sea', Google+ is not Google's first attempt at social networking. Before Google+, the company tested the waters with Orkut, Buzz, Wave, Jaiku, etc. but except Orkut, none of them managed to even create a ripple.

Facebook, on the other hand, is a giant that seems almost impossible to overcome. Founded in 2004 by Mark Zuckerberg, what was initially open only to university students, gradually opened up to anyone in the world over the age of 13. Facebook has since captured the imagination of the world and successfully

squashed any competition. According to reports, Facebook currently has over 750 million active users around the world, which is no small feat. What it's also doing in the process is amassing tons of personal and sensitive data so willingly shared by millions of its users. This data is like a gold mine of information that can be harnessed in numerous ways. It has also brought about a paradigm shift in the way people perceive and use Internet.

If Google, with its array of successful services that people have come to rely on, wants to maintain its stronghold, then it is only natural that they come up with a social network to rival Facebook. Google has invested a lot of time and manpower into Google+. Have they finally nailed it, or are they going to burn their fingers yet again? Let's find out.

Google+

FEATURES

Although Google+ is currently creating waves in the social networking space, not all its features are new or innovative. However, it does seem to be user friendly, and after using it for a short time, you will get the hang of it.



THE CIRCLE OF LIFE

You can categorize and organize your Google+ contacts in Circles, just like you do in real life. While there are pre-created circles that you can begin with, you can go on to create your own circles as required. To add friends to a circle, just drag and drop, and you can also add a person to more than one circle. This way, you can share messages selectively on your Google+ stream. If you have shared posts with a certain circle which contains a friend who also features in another circle, rest assured that the remaining members of the second circle will not be able to view your posts. If you don't share posts with any specific circle, you can mark them as public posts, which are visible to people who are not in any of your circles, even if they are not following you on the service. You can have as many as 5,000 friends across circles.

HIDING FRIENDS IN YOUR CIRCLE.

Even though you classify friends in circles, all your friends are visible by default on your profile. If you don't want to share the information with the world, you can hide it on your profile. Login to Google+ and go to your Google+ profile. Click the 'Edit Profile' button and click the circle appearing next to either of your friend lists. Uncheck 'Show people in my circles' and 'Show people who have added you to circles' options. Click Save and then click Done to save changes to your profile.

If you don't want people to appear in your account at all, you can block such contacts. While you can neither comment nor receive any comments once you block a person, you continue to be in their circle and they can view your public posts. To block a user, go to their profile and look for the 'Block <name>' link appearing below the friend listings. If you want to ignore selected posts and not block any person, click the dropdown menu appearing near the post and click 'Mute this post' instead.

Stream

Share what's new...



THE STREAM OF COMMUNICATION

Similar to news feeds on Facebook, you can share posts, pictures and videos with your friends on your stream. Click on the home button on your Google+ page to go to your stream and start posting. You can post text messages, photographs, GIF animations, videos, links and your location using the share box. Moreover, you don't really need to upload pictures from your PC; you can just drag and drop links to your share box to share both videos and pictures. You can share stuff with individuals, your circles, and extended circles (people in your circle, and their circles too) or make your posts public for anyone to view on the service. Once posted, you can disable sharing to keep posts private, or even disable comments if you don't want your conversations to be prolonged. All posts that appear on your stream either through specific circles or people contain tags like Public, Extended circles, or Limited. Click on the link to see the people the post is shared with.

POSTING ON YOUR STREAM

Google+ enables you to upload GIF animations on to your stream, just like adding pictures. Click on the little camera icon on the 'Share what's new...' box and click 'Add photo' to upload your GIF image. Google+ also supports a fair bit of rich text formatting in your posts. To make words bold, use the asterisk symbol (*text*), to strike out a word use hyphen (-text-), and use underscores to italicize words (_text_). You can mention friends by prefixing their names with the + or @ symbol. You can make posts private by clicking the dropdown menu near the post and selecting the 'Disable reshare' option. You can also disable comments this way.



SPARKS OF INFORMATION

If you want to ensure that you are informed about topics of your interest, you can add a Spark on the topic. Apart from a list of 'Featured interests', you can also search and add Sparks for any other topic. Sparks work like an aggregator similar to the Google Reader, but it doesn't limit itself to just atom or RSS feeds.

SHARING LINKS FROM YOUR SPARKS LIST ON YOUR STREAM

You can create custom Sparks apart from signing up for the predefined options. To create a quick access point for your favorite topics, go to the Sparks link in your profile. Click on the existing options or type out what you are looking for. Once the page is loaded, click the 'Add interest' button. The topic will appear as a link under the Sparks section. Click the link to be directed to the search results quickly. You can share interesting links by hitting the share option that appears under each searched link.

VIRTUAL HANGOUTS

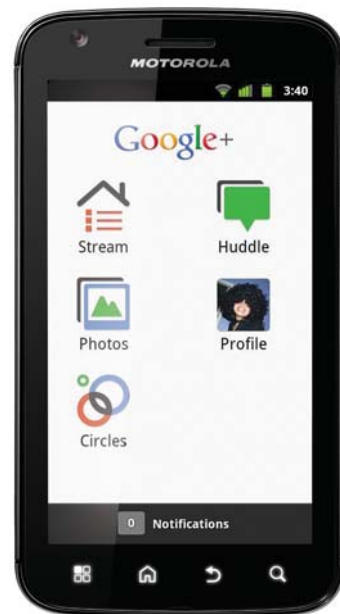


Google+ hangouts enable you to video chat with as many as ten friends at once. You can also watch a Youtube video together. The best feature of hangout is that it detects voice modulation and loudness and switches communications accordingly. For example, if one of your video chat friends is louder than the other, his chat window will be displayed prominently, while other windows are

arranged neatly in a row below. When you are watching a video, the window streaming video gains prominence.

STARTING A HANGOUT

To start a video chat room, go to your stream and click the 'Start a hangout' button. Before you can begin, you will have to install the Google Voice and Video plugin. Save the EXE file, close all your browser windows, and run the file. Now reopen your browser and sign into your Google+ account. Go back to your stream and click the 'Start a hangout' button. Check your camera and microphone settings and click the hangout button. Click the invite button to invite either entire circles or specific friends. Click the Youtube button to load videos. You'll need to be careful as these chats are not private; anyone can join the hangout if they have access to the unique URL of the chat session.



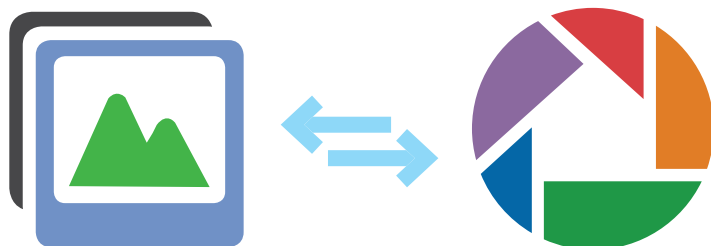
+1 TO BOOKMARK SITES



While the +1 feature for a post appearing on your stream is similar to Liking the post, it is not limited to that alone. If you are using Google Chrome, Internet Explorer, Safari or Firefox browsers, you can use +1 button that appears near search links on your Google search window. Once you +1 any link, it appears under the +1s section of your Google+ profile. While you cannot really share these links directly to your stream, it works like a social bookmarking service that can be made public on your profile instead. The +1 links appear only on Google Web search pages, but services like Youtube also let you +1 videos individually.

MAKING THE +1 TAB PUBLICLY AVAILABLE ON YOUR PROFILE

By default, the +1 tab doesn't appear on your profile for your friends to see. Unlike Sparks, you can not share +1 links on your stream; they are listed under the +1 tab on your profile only. To share these links with your friends, you can open the +1 tab on your profile. To do so, go to your profile, go to the +1 tab and click 'Edit profile'. Check the 'Show this tab' option on 'my profile' and click save. You can also disable the Buzz tab on your profile. For that, go to the Buzz tab and uncheck all the options. Click Save and the 'Done editing' buttons to save the changes on your profile.



SHARE PHOTOS FROM YOUR PICASA ALBUMS

The best thing about using Google+ is the integration with other Google services. While you can upload pictures directly to your stream, you can also share albums saved in your Picasa account. When you sign up for a Google+ account, you can view all your Picasa albums on your profile page, but they are not shared on your account by default. You will have to go through each account on your Google+ profile page to share them in your circles. Till you share them explicitly, albums you haven't shared can be seen only by you.

GEO TAGGING PICTURES

You can add location information to all your pictures that you upload on your Google+ account. However, these would only work if your uploaded pictures have the location tagged into their EXIF information from your camera. If your camera supports geotagging images, you can go to the settings button, which appears next to your picture on the navigation bar and select Google+ settings. Check the 'Show photo geo location information' in 'newly uploaded albums and photos' option under the Photos section and save changes. Your newly uploaded photos will be tagged with locations as well.

GOOGLE+ ON ANDROID

Since it is a Google operating system, it's only natural to expect Google+ on Android devices as well. For now, you can use the Google+ app only Android smartphones, and the second generation app is available for free on the Android market. When you install the app, you will also notice an additional Huddle app. The Huddle can be best described as hangout without video conferencing or a limit on the number of friends you can invite. The new update has fixed issues with Swype and also allows you to ignore Huddle invites and set photos as screen wallpapers. You can also add circles as views or switchable windows to ensure that you are aware of what is happening in your circles.

DISABLING AUTOMATIC UPLOADING OF IMAGES

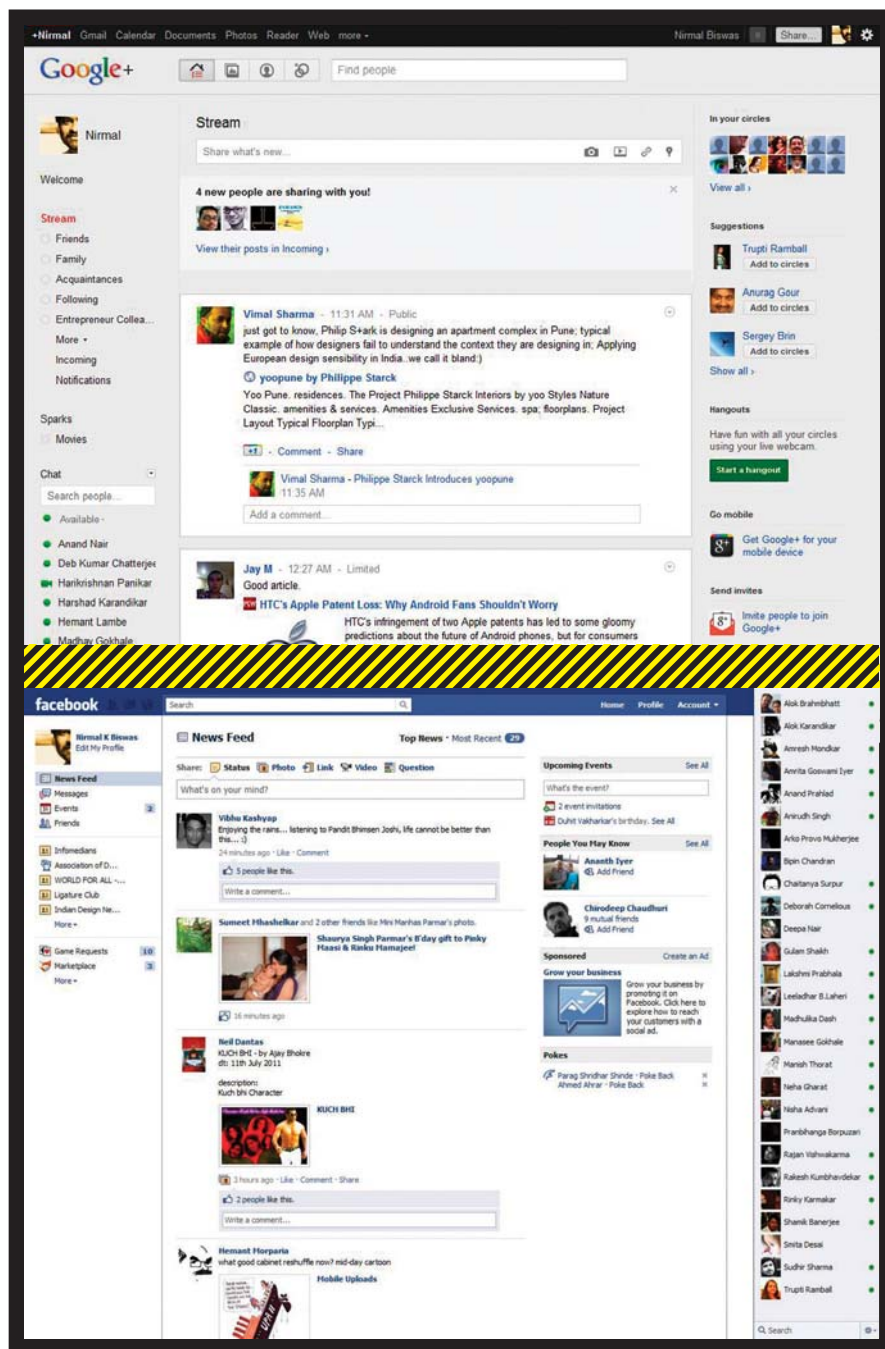
By default, any new picture you click on your Android device is uploaded to your Google+ account. If you are using a GPRS network, it will cost you a bomb and will drain out your battery too. To disable the feature, load the Google+ app on your phone, and click the menu button. Click settings and scroll down to the 'Instant upload' section. Uncheck the 'Instant upload' option and click the 'Instant upload settings' option. Change the settings here as required and click the back button twice to start using the app on your device.

GOOGLE+ VS FACEBOOK

Facebook currently sits pretty at the top of the social networking ladder and has maintained its grasp for a while now. It is clear that Google+ has been created with the intention of directly competing with Facebook. Google+ does offer more in some aspects, and is somewhat of a combination of Facebook and Twitter, but a lot of the features that attracted many people to Facebook are missing in Google+. But while many Google+ features have been inspired by Facebook, does it offer enough to challenge Facebook for its number 1 spot?

SHARING AND PRIVACY

With circles, Google+ makes your privacy and sharing a lot easier as you have already got segregated groups of contacts. Sharing information or links on your profile is quite similar between both social networks, with the option to choose specific people, specific groups, tag people or hide or delete posts. Google+ takes it a step further by giving you the option to allow your posts to be re-shared or even prevent comments from your posts. As far as privacy settings are concerned, there are a few minor differences. While both parties state that any material directly posted to the site, such as a status, comment or wall post is licensed to the social network, any links, sites, videos or images that you share from a different location are not owned by them. The difference is that Google+ allows you to completely shut down your account and leave, while Facebook only gives you the option to deactivate your account. Google+ also gives you the option of taking all your data with you, effectively asking them to wipe clean all the stuff you've uploaded or shared on Google+, which Facebook does not. Both parties also share information with third party applications or websites, although there exist very few for Google+ so far. The difference is that Facebook shares a lot more information than Google+ does, since the latter allows you to limit your shared data to just your name and email address.



LAYOUT

Facebook users shouldn't have trouble acquainting themselves with Google+. The central placement and format of the stream, the arrangement of circles and friends on the left side bar, and the placement of recommendations on the right side bar are all almost identical to the Facebook home screen. Google+ differs only slightly in the personal profile page, offering organized tabs for your information, photos, videos, etc. The addition of the 'Google Bar' at the top of the window is also reminiscent of Facebook with the notifications icon moved to the right side of the screen. The only difference where Google+ has an advantage is that the Google Bar is static as long as you are navigating between Google services such as Picasa, Documents, Reader, etc. Another very noticeable difference is the lack of ads on Google+. Facebook ads are well segregated, but still draw attention. Even worse is the fact that the material in the ad is sometimes not related to the content on the website it links to. Whether Google+ will open its doors to ads only time will tell.



+1 VS LIKE

The Google+ equivalent of a Facebook 'Like' is the +1. While +1 is similar to Like when it comes to appreciating someone's post or comment, it can also be used to create bookmarks from Google search results, websites, videos and more. The Facebook Like button is best used to share groups, pages or apps within Facebook as your Likes are posted to your wall and appear on your friends' timelines. +1, on the other hand, is more discrete, allowing you to archive material that you would wish to view in the future without sharing it on your profile or appearing on anyone's stream. Every Google+ profile has a +1 tab that contains all the websites or links that you have +1'd. It does not, however, display comments on posts on Google+ that you have +1'd.

APPS

Facebook saw a drastic rise in popularity with the introduction of games, apps and quizzes. They are also the reason people started spending more time and money on Facebook, driving up revenue. While some users on Facebook were unappreciative of apps and games like Farmville, it is these apps that brought more traffic to Facebook. Google+ is still in its early days and Google are known for doing things differently, but it would be hard for anyone aiming to be on top of the social networking ladder to ignore the success of apps. Many new users on Google+ claim it to be better due to the absence of ads and apps, but the absence of apps could also be the reason a lot of users haven't signed up yet.

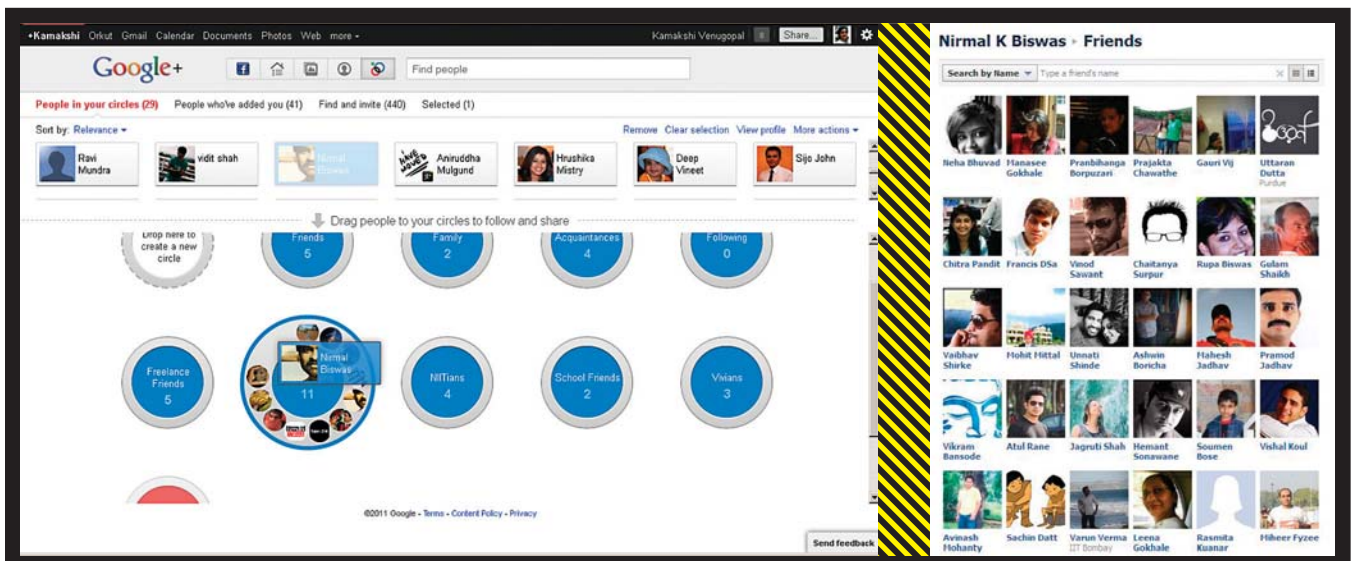


CHAT

This is one of the features where Google+ has outdone Facebook. Plus is incorporated with the standard Gchat panel, which is similar to Facebook chat, whereby you can text chat with any contact that is currently online. Google+ also features hangouts, where you can have a multi-person video chat with up to ten people. The interface is quite intuitive and also allows you to share Youtube videos while video chatting. To match this, Facebook has announced a video chat service of their own in conjunction with Skype, which allows users to have a one-to-one video chat, but this service is currently not available to all users.

FRIENDS VS CIRCLES

Google has approached 'friending' from a slightly different angle. Like Twitter, it enables users to 'follow' people rather than request their permission to view their profile. While this makes it easier to find friends and broaden your network, it does put more pressure on the user to ensure every post is on the correct privacy setting. Google+ forces you to place people into different circles, enabling you to share information with a certain group of people without having other contacts view it. This is helpful when you wish to share sensitive information with a select group of people. Facebook also allows for such grouping of friends with lists but the option to share material with a specific list is a tedious process. Another important aspect is that your circles on Google+ are invisible to others, while anyone on Facebook can see your groups and which groups you belong to unless they are specifically locked. The fact that Google+ forces you to segment your contacts rather than giving you the option of doing it makes selectively sharing information a lot easier. Google+ also allows you to prevent unknown people from viewing your friends or people in your circles, effectively displaying your list of friends as '0'.





SOCIAL NETWORKING TIMELINE

1995

Created by Randy Conrad, **Classmates.com** at one time boasted over 40 million active members in the US and Canada. However, it failed to attract audiences anywhere else in the world. It's current Alexa rankings place it 3,114, with the India traffic ranks placed at 16,509.

2002

Friendster.com started off as a social networking and dating site, but as of May 2011, the website dumped its 8.2 million registered users to recreate its image as a social gaming site. As per current Alexa standings, 19% of visitors on the site are from India, which is why the site is ranked at 484 here, while the global rankings show that the website is way behind at 1,025.

LinkedIn.com, best described as a business networking site, is launched. With Alexa's global list ranking the website at 15, LinkedIn is listed at the eighth position in India. The website acquired Mspoke in 2010 to extend its functionalities to ensure users sign up for its paid facilities, and is said to have 100 million users as on March 2011.

2003

MySpace.com, a social network mainly targeting musicians and music lovers, is launched. As of July 2011, the Alexa global ranking for the site is 115, while that for India is 85. With 30 million users as of June 2011, the website has suffered a serious and continuous decline in popularity since the launch of Facebook.

2004

Created by employee Orkut Büyükkökten, Google's first attempt at social networking service is launched. The website enjoyed widespread popularity in India and Brazil before it was swept over by the Facebook phenomenon. Current Alexa rankings place **Orkut** at number 104 globally and 19 in India.

Mark Zuckerberg and his friend from Harvard launch **Facebook.com**, a mere 10 days after the launch of Orkut.com. With over 750 million registered users and counting, Facebook rules the social networking space on the Web. Ranked at number two globally by Alexa, the website is second only to search giants Google. In India, it needs to compete with Google India as well, and hence is placed at number three.



2006

The first micro-blogging service – **Twitter**, is launched. A popular medium for celebrities to tweet their views, the website boasts of 200 million users as of March 2011. Alexa has placed Twitter at the 9th position both globally and in India.

2007

Launched in 2006, **Jaiku** is acquired by Google in an attempt to break into the micro-blogging scene. In 2008, the service is made available to the public by open-sourcing the product. Alexa rankings place the service at 9,732 globally and 1,178 in India.

2009

Trying its luck in the social networking arena for the third time, Google launches its **Google Friend Connect** service. Similar to Facebook Platform, the Web service lets users share and upload messages using third-party websites. Google estimates more than 5 million websites use the Friend Connect service.

2010

In its fifth attempt at social networking and second at micro-blogging, Google launches **Buzz**, integrated with Google's email service Gmail. The service integrates feeds from websites including Picasa, Flickr, Google Latitude, Google Reader, Google Sidewiki, Youtube, Blogger, and Twitter, among others. Google tries to recreate the social networking structure with the real-time collaborative editing Web service called **Google Wave**. In 2010, Google suspends its standalone development, but the project has been added to Apache Foundation's Incubator program under the new project name – Apache Wave. The service continues to be in existence.

2011

Google, in its sixth attempt, finally sees a lot of enthusiasm around its by-invites-only social networking website called **Google+**. The project generates so much interest that invites were put up for sale at Ebay for \$27 each. The service is now open to all Google users.

THE MINUS IN GOOGLE+

Google created waves in cyberspace by sandboxing Google+ at its inception on June 28. Any avid social networker would be excited at the prospect of having a profile on a social network created by Google and the restricted access to Google+ only elevated the anticipation. Google initially sent invites only to users who they believed were extremely active on social networks in order to get experienced users to spread the word. As a result, talk of Google+ spread like wildfire across popular social networking sites like Facebook and Twitter.

THERE ARE STILL A FEW CRACKS

While Google has stated on several occasions that Google+ is still in beta testing, users have brought up a few security issues that need to be addressed soon if the service is to be successful. For instance, blocking a person on your profile will prevent his/her updates from appearing on your stream, but if you have a mutual friend who reshapes your posts, the person you blocked can also read and comment on them. There is also an issue with posts not updating in real-time and delayed email notifications but this might be a teething issue since Plus is still at a nascent stage.



SPAM IN YOUR INBOX

The servers running out of disk space not only prevented users from signing in or uploading content, it also affected the Gmail notifications. A Google representative explained "For about 80 minutes we ran out of disk space on the service that keeps track of notifications. Hence our system continued to try sending notifications. Over, and over again". This resulted in users getting multiple emails regarding undelivered notifications and when the issue was solved, users received multiple notifications that were not delivered earlier.



THE RUSH FOR INVITES

The spread of Google+ by word-of-mouth led to mass requests for invites from users that had not had the opportunity to join it. Google claim that access to the site was limited as they did not have servers that would be capable of handling excessive loads. Steadily, Google+ allowed its members to send out invites for brief windows every few days, thereby slowly increasing the number of members. However, it was not long before users discovered flaws in the system that allowed users to join the network without an invite.



SERVER OVERLOAD

As users discovered loopholes in the Google+ system to give their contacts access to the site, the number of users increased exponentially. It was possible for new users to join the network by simply getting an existing Google+ user to share a post with them or tag them in photos. If a link or a page was shared with a non-member or the non-member was tagged in a photo on Google+, they would receive a notification of this via e-mail. The e-mail contained a link, which allowed users to create a new profile. The unexpected influx of new users had adverse effects on Google's servers, however, causing them to go over capacity and making the site inaccessible.





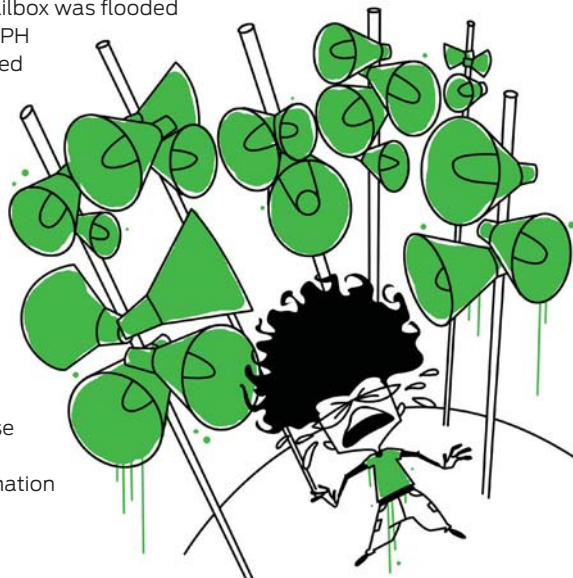
BUT THERE'S NOT MUCH HAPPENING

Even though anyone and everyone is keen to sign up to Google+, once you're there, the excitement is quite short-lived. After exploring the site and its features, users quickly realize that there's very little activity. Compared to the frequency with which there is a new post on your Facebook news feed, the Google+ stream is relatively static, mostly due to the reduced number of friends in your circles. With the scarcity of content in the stream, users are quick to lose interest and defer back to Facebook to follow their friends' activities.



ADVERTISING ON GOOGLE+

Where most existing Google+ users used the loopholes to bring their friends and family to the new social network, a few companies saw it as novel methods of advertising or marketing their brands. PH Creative, an Israeli ad agency, capitalized on the popularity of Google+ to advertize its brand name and services by announcing that they were sending invites to anyone in the marketing industry. The message spread, and in just a few hours, their mailbox was flooded with requests for invites. PH Creative promptly provided these people with a doorway into Google+ by tagging them in a photo and giving them instructions on how to get started. Once their profile was created, these new users had just one friend - PH Creative. The company then shared and uploaded its portfolio to Google+, resulting in these new users having their stream flooded by information only about PH Creative.



WILL GOOGLE+ GO THE DISTANCE?

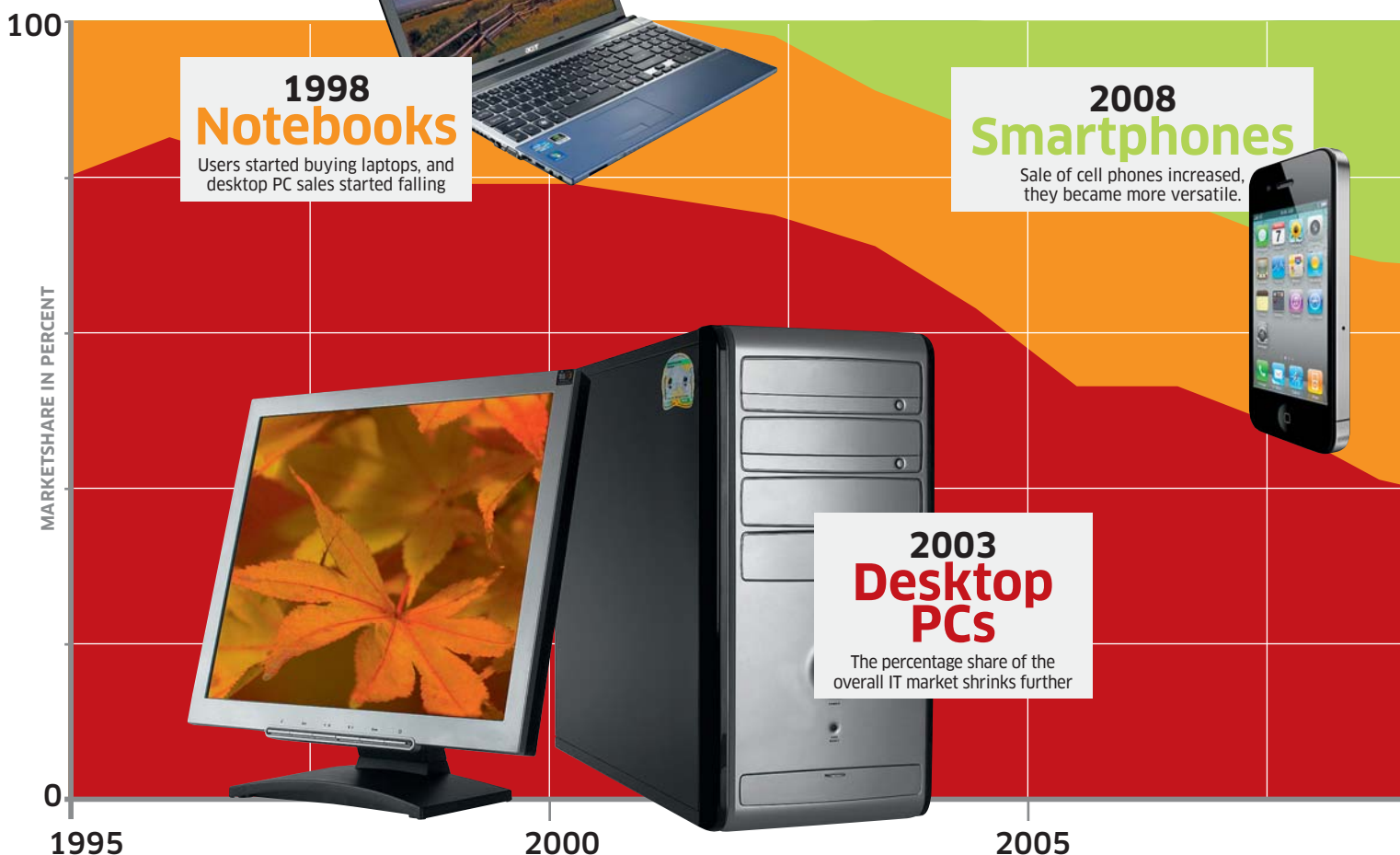
With people already busy leading their lives in cyberspace courtesy Facebook, the addition of yet another social networking site is likely to cause little stir. One thing is for sure; it's difficult to escape Google, the omnipresent Web powerhouse that's everywhere. People who have signed up for Google+ will simply find it difficult to ignore the notifications that appear in the Google notification bar. And as the invitations open up, more and more people will sign up for Google+, at least to give it a try. Since Google already has access to the databases of all the people we interact with courtesy Gmail, you will not have to go find people you know; Google will bring them to you.

Google+ definitely has an edge over the competition as they can track the problems people experience with other social networks. They knew exactly what people were looking for, what worked and didn't work, and what people wanted. Little wonder then that at first glance, Google appears to have integrated the best features from other popular social networking sites into Plus. Additionally, you also have new features like Sparks making sure you do not need to go beyond Google for anything you need from the Internet.

And considering the reach of Google, social networking will now be available to even those people who had so far managed to keep out of the social networking craze. While for those who are already busy juggling their various online profiles, addition of Google+ can cause some anxiety. Prominent psychologist Varkha Chulani says that while social networking in itself is not a bad thing, what's missing is balance. She says, "In most cases what's happening is that people are losing the balance between reality and the virtual world. They are losing perspective, because at the end of the day, success is not going to be measured in terms of social networking skills, but by what one does and knows in real life. A new site will make no difference, and for it to make an impact, it will have to offer something really exciting."

All said and done, the question still remains - will people jump onto the Google+ bandwagon? After spending a great deal of time and effort on setting up their social networks on the likes of Facebook, Twitter and MySpace, are people willing to do the same for Google+? Then again, there is the view that some might look to Google+ as a way to 'reset' their online presence, and this time add only 'real' friends on Google+, rather than the 'friending' spree they undertook on other networks. 📌

- feedback@chip.in



Is the PC dead?

It has served us for decades, but the end is now approaching for desktop computers. Sleek mobile devices could replace the old fossils.

BY PETER GLASER

It seems as if Thomas J Watson was right after all: Watson, Chairman of the Board of IBM till 1956, had made this legendary quote: "I think there is a world market for maybe five computers." This forecast has been ridiculed for a long time, but as far as the personal computer is concerned, it will soon be a reality. There is growing evidence that the PC era is coming to an end. With small, powerful machines, new freedoms that users want, and new services that make computing omnipresent like oxygen, the digital world is transforming into something in which communication, data is readily accessible anywhere, anytime.

Beginning of the end: desktop computers are losing importance

The classic PC that sits on a desk with a noisy fan is now too bulky for this new world—it's too stationary and inflexible. The computer revolution might well be over; the concept itself has become outdated. It is now time for multifunctional mobile machines in the form of smartphones and ultra-slim media tablets that fit into the pockets of our jackets. They use computing power which is called on demand at any time and is always available like tap water. They form a new type of network that

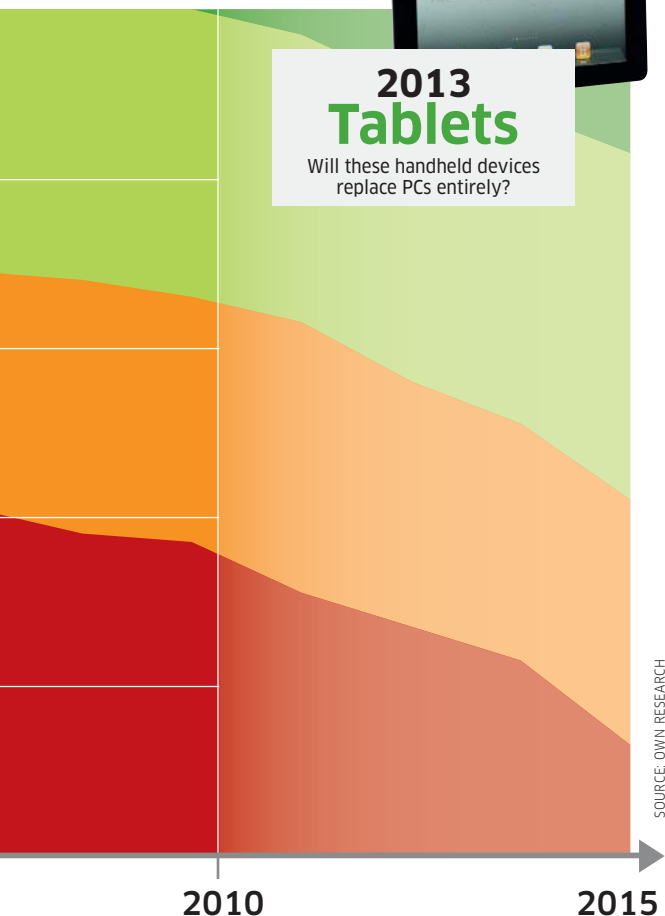
will possibly make the possession of today's computers completely redundant.

Considering that approximately 84 million PCs were sold worldwide in the first quarter of 2011, the view that the PC generation is over would seem far-fetched to some. But things change very quickly in the digital world. When IBM and the small company Microsoft signed a contract for developing an operating system for the planned IBM PC in November 1980, Bill Gates' secretary Miriam Lubow saw her young boss walking into the office in a three-piece suit one morning. Gates was usually dressed very casually; he occasionally



2013 Tablets

Will these handheld devices replace PCs entirely?



market leadership to its competitor.

Since the beginning of the new millennium, market research firms which closely follow the worldwide PC market, such as Gartner and IDC, have been seeing increasingly weak demand. The sales figures are declining; only notebooks and netbooks have been doing well. People today need devices that are mobile, handy, and flexible thanks to a variety of available apps which can connect them to the Internet, allow them to have fun, and of course work at any time and any place. The trend is obvious, even if demand for low-cost conventional machines has been revived due to the financial crisis, the PC is dying.

Revolution: From heavy colossus to interconnected multimedia PC

The term "Personal Computer" was first used in October 1968 in the magazine Science, in an advertisement for a programmable calculator by Hewlett Packard, the HP 9100A. The device, weighing 20 kg and costing US\$ 4,900, had hardly anything in common with what was later referred to as the personal computer. It was soon clear that the PC revolution had nothing to do with hardware.

When the Apple computers came to the market, business people first thought they were toys, but VisiCalc, the mother of all spreadsheet programs appeared in 1979 and changed the business world. Operating systems—first DOS, then Windows—in combination with a software suite for the office made Bill Gates the richest man in the world.

The appeal of PCs was in the fact that everyone could now have a machine which could be transformed into an amazing number of devices with the help of software. At the beginning of the 90s, when the Internet found its way to the masses, the formerly islanded PCs

got interconnected: and the PC, with a browser, was now something that led the people into a new world.

iVolution: cell phones turn into computers

At the same time, mobile telephony became suitable for mass consumption. In the early and mid 90s, there were only a few hundred thousand cell phone users even in developed countries, but by the year 2000, millions more were coming on board. Now in the second decade of the 21st century and the rise of social media, it has turned out that we are no longer living in the information era but in a new communication era. These coexisting technological threads are best when bundled into one device: the smartphone. The flow of digital media is now in the process of turning into a part of our environment. We no longer want to remain in front of a desktop PC, we want to be completely digital. With stationary, heavy computers, this is not possible. Only post-PC technology will do.

With the iPod (2001), iPhone (2007) and iPad (2010), Apple, the former pioneer of the personal computer, stepped out of its niche and became a trendsetter for digital entertainment and mobile Internet use. Apple showed that operating a smartphone could be a pleasure, an important distinction from Microsoft, which was listlessly tinkering around with Windows Mobile. Steve Ballmer tried to fix the mess by simply defining tablets also as PCs. Apple, however, called these "post-PC devices".

Even until a few years ago, the PC was solid as a rock. But attacks had begun even in the eighties: viruses spread via floppy disks, long before the first Internet worms and malicious programs that spy on PCs or take control of them. Many consider the PC to be a digital counterpart of themselves, but the border between it and the network, ie the outside world, began to disappear—for better or for worse. Even while new viruses attempted to penetrate every defense, users were drawn to the Internet because of their curiosity.

Scott McNealy, head of Sun Microsystems, once perkily declared that the classic PC was dead - "The network is the computer", he said. It was still too early in the nineties, but it's actually happening today: the migration

had pizza crumbs on his t-shirt and his glasses were constantly blurred. Shortly after this, three men arrived in jeans and sneakers with thick briefcases. They said that they had come from IBM. The engineers had tried to adapt to the style of Gates—and Gates had done exactly the same. When they met in his office, they all began to laugh. But the smiles were soon wiped off the faces of the people at IBM. Given the sheer size of the company, what nobody could have imagined, happened.

At the beginning of the nineties, IBM, which had practically pocketed the abbreviation PC as a brand name for its computer in the initial years, lost the



PETER GLASER
IT Journalist, Writer

This honorary member of the Chaos Computer Club has been following the development of the digital world and modern pop culture for three decades.

from the PC to the cloud, cloud computing, has begun. The PC loses its P. Large data centers comprising of thousands and thousands of interconnected, impersonal and easily substitutable computing resources, are now increasingly available to the online community for use based on requirements.

The future: miniaturization continues, the interface falls behind

If one looks into the future, something amazing appears to be emerging: hardware is disappearing, and only the functions remain. The always-and-everywhere network will ensure that you can always be online, and write, read, call, watch TV, listen to music, search, blog, all without having to carry around bulky equipment. With the miniaturization of components, a 20 kg PC can be reduced to such an extent that the technology moves inconspicuously in the background.

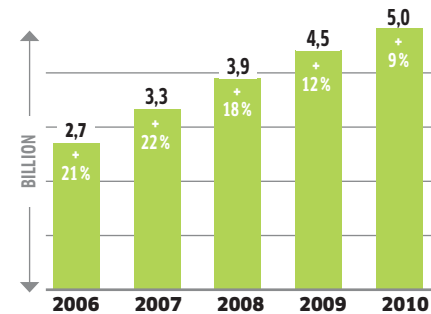
Perhaps it will be integrated into the streetlights one day, and will be a part of a public infrastructure like today's increasingly common Wi-Fi hotspots. Instead of having to carry a notebook or a tablet around, one would then have the option to use instances of virtual screens, keyboards and other future ideas. There are already systems that project screen contents on any surface—clothes, palms, a park bench—and also cameras that detect where you are pointing and what gestures you are making. You use your hand instead of a mouse and just a small tinge of reflected light is enough to recognize that something has to be done.

The next step after post-PC technology is a completely new and intense feeling of ever-present, transparent communication. With a simple flick of the hand, whatever you need will be right there. What will remain then is only the recreation of an interface; the user interface of the device, which is the point at which doing anything a computer used to do, without a computer, will feel like a bit like magic. 

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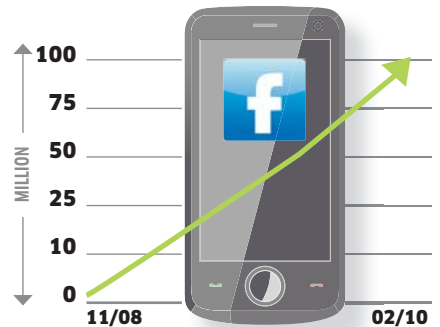
CELLPHONES: MORE THAN FIVE BILLION USERS

There are more than 5 billion cell phone contracts and prepaid cards worldwide. In many European countries, 60 percent of cellphones are smartphones with full Internet access.



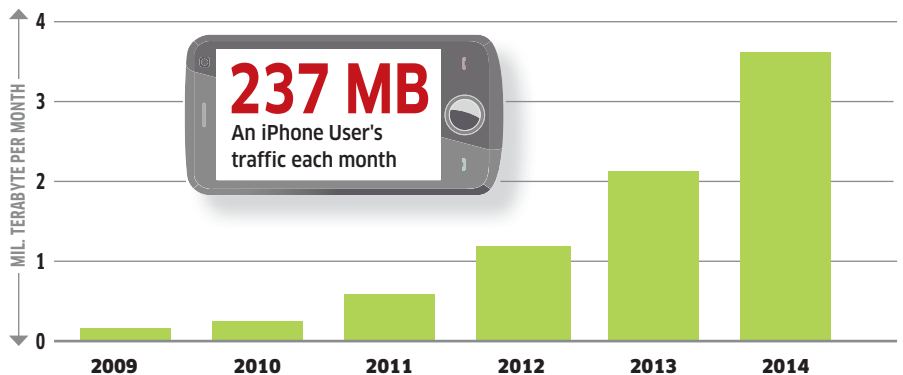
FACEBOOK: MOBILE USERS ARE ALWAYS ACTIVE

More than 100 million Facebook users access the community via smartphones. According to a study by comScore, they are twice as active there as compared to those without mobile Internet access.



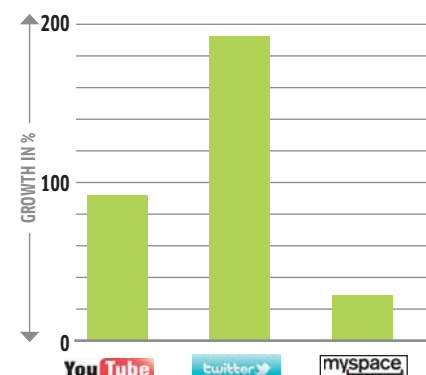
WORLDWIDE DATA TRAFFIC OF MOBILE DEVICES

Smartphones, notebooks and tablets generated about 240 Petabytes, i.e. 240,000 terabytes of traffic per month in 2010. In 2014, mobile devices should be responsible for more data traffic than desktop computers. Cell phone videos in particular will make up the majority of the volume.



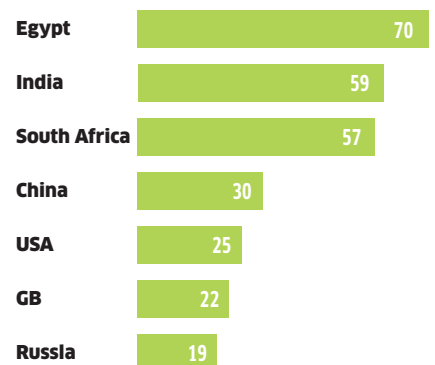
USAGE OF MOBILE WEB SERVICES INCREASES

Mobile access to websites grew enormously from 2009 to 2010. Twitter is used by 200 percent more people thanks to smartphones.



SMARTPHONE SURFERS DO NOT NEED ANY PC

More than two thirds of web surfers in Egypt no longer go online with the PC. In the USA it is still around a quarter of all users.



SOURCES: BITKOM, COMSCORE, CISCO, ON DEVICE RESEARCH

The Beginning of an Infinite Net

Prefix

2001:0eb7:86b4:03d7:

Properties of the address

This block shows the network with which the device is connected, in this case, it is an Internet connection

Data from the provider

The entire prefix stands for the network number that the provider has assigned to the user here. It corresponds to the public IP address.

Microsoft purchased 666,624 IP addresses this March for about 7.5 million US dollars. The reason they are now so expensive is that fresh IPv4 addresses used today are as good as finished, and therefore aftermarket trade is flourishing. If you have the wherewithal, you can manage to get one of the last addresses via websites like tradeipv4.com, or even auction off your own addresses.

However, this commercial enterprise will not last long as the way out of the IP shortage fiasco, the network protocol IPv6, is slowly gaining acceptance. With IPv6, there will be no more restrictions on the Internet, as a lot more addresses will be available than there are people and devices to use them all. Internet service providers want to introduce IPv6 this year, and even website operators are slowly rethinking their reluctance to switch over. The change will bring a lot of advantages for users, but at the cost of new problems.

Which advantages does IPv6 have?

The most important argument in favor of switching is that there will be no foreseeable growth limitations on the Internet. In principle, IPv6 addresses

won't run out, as almost 340 undecillion (3.4x10³⁸) unique IDs will be available as compared to the old protocol, IPv4, which provides only 4,294,967,296 (about four billion) addresses in all. Thus, 49,102,794,649,486,069,763,834,719,687 (about 50 octillion) addresses will be available per person—which by all reckoning is an inexhaustible figure. This means that every device on the planet can get a unique address with IPv6, e.g. electronic domestic appliances and cars that have smart connected electronics. This will allow continuous communication with all kinds of devices.

The reason that so many more addresses are available with the IPv6 protocol than with IPv4, is mainly that the length is much greater. The old IPv4 addresses are only 32 bits long. IPv6 on the other hand is up to 128 bits long, and consists of eight blocks with hexadecimal figures (see the diagram above). IPv6 addresses are thus longer than those with IPv4, so not only do they have the advantage of a larger bank of addresses, but they also simplify network administration. Many of the functions of IPv6 have been available with IPv4, but only through convoluted enhancements like NAT (Network Address Translation).

For home users, IPv6 transitioning will

also involve some work: firewalls require new filters, and routers must be up to date. Everything will need to be updated, even browsers sometimes have problems simply because IPv6 addresses appear malformed to them, since colons were previously used to indicate a difference between IP address and port number. A workaround in current-gen browsers allows these addresses to work if they are typed inside square brackets for the sake

The old IPv4 protocol

The new IPv6 protocol functions differently from its predecessor. These are the most significant differences:

ADDRESS SPACE: As IPv4 addresses are 32 bits long, only four billion addresses can be created – too few for 6.93 billion people! IPv6 is 128 bit, so every individual person could get about 50 octillion addresses.

STRUCTURE: An IPv4 address consists of four blocks with decimal points, e.g. 195.121.130.123. As the provider allocates addresses dynamically, a user cannot be identified directly. On the other hand, every user who does not take security measures leaves behind a clear trace with IPv6.

The Internet is bursting at its seams, but a new way to make space for future growth will soon become necessary. Will you be ready for the change?

BY MANUEL SCHREIBER

Interface Identifier

This part is generated from the MAC address of the device, and can be tied to the device uniquely.

Address abbreviations

Zeros at the beginning of a block can be omitted to abbreviate the address

Bit length of the prefix

The provider receives an address space, which he again divides into addresses of at least 64-bit length.

1218:8e3b:0540:7847/64

of distinction, e.g. [http://\[IPv6 address\]](http://[IPv6 address]). The port number can then easily be added after that as usual, e.g. [http://\[IPv6-address\]:21](http://[IPv6-address]:21).

When is the deadline for the switch-over?

ISPs in many parts of the world want to introduce the IPv6 protocol this year. But this does not mean that you will no longer have Internet access if your old hardware does not support the new protocol. The providers will have to allow both versions to run in parallel initially, or risk a completely stratified system in which half the users are incapable of reaching the other half. IPv6-compatible devices will have to independently decide which protocol they want to use (dual stack) while the system is in transition.

Even if the hardware behind the site you want to visit uses only IPv6, and your Internet service provider has still not switched over, it should not be a problem. A tunnel protocol (6to4 tunnel) is used here, which transports IPv6 packets through IPv4. It is different if your home router only supports IPv4 and the service provider only uses IPv6: in such a case the networks are not compatible, and the site that the user wants to visit will not be accessible. However, this will

1. Search devices

Via 'ipconfig' in the command line, you will see whether your device has an IPv6 address or not

2. Test devices

With 'ping -6' you can access the hardware and see whether a connection can be established without errors

```
Administrator: C:\Windows\system32\cmd.exe

Ethernet-Adapter VirtualBox Host-Only Network:

Verbindungsspezifisches DNS-Suffix:
Verbindungslokale IPv6-Adresse . . : fe80::689a:8d59:a8b:8060%23
IPv4-Adresse . . . . . : 192.168.56.1
Subnetzmaske . . . . . : 255.255.255.0
Standardgateway . . . . . :

C:\>ping -6 fe80::689a:8d59:a8b:8060%23

Ping wird ausgeführt für fe80::689a:8d59:a8b:8060%23 mit 32 Bytes Da
Antwort von fe80::689a:8d59:a8b:8060%23: Zeit<1ms
Antwort von fe80::689a:8d59:a8b:8060%23: Zeit<1ms
Antwort von fe80::689a:8d59:a8b:8060%23: Zeit<1ms
Antwort von fe80::689a:8d59:a8b:8060%23: Zeit<1ms

Ping-Statistik für fe80::689a:8d59:a8b:8060%23:
Pakete: Gesendet = 4, Empfangen = 4, Verloren = 0
(0% Verlust),
```

not be the case for the time being as all service providers will support IPv4 simultaneously.

Are my devices ready for IPv6?

As the address problem has been anticipated for a number of years, many devices and systems are already IPv6-capable. For instance, since Service Pack 2 for XP, Microsoft has integrated IPv6 support into all its OS releases, and all conventional browsers have been able to interpret the protocol for many years. If you do not have age-old PC equipment, the chances are good that you are already well equipped. In exceptional cases, devices that do not support IPv6 are still available in the market.

If you want to find out whether your computer interprets the network protocol correctly, open the command

line ('cmd.exe') in Windows, and enter the command 'ipconfig'. If your network is IPv6-ready, the system displays the entry "Link-local IPv6 address" and the relevant IP which should begin with "fe80". These addresses are only valid within a network, and thus cannot be used for an Internet connection. IPv6 addresses of devices that communicate directly with the Internet always begin with "2001" or "2002" (see the box above).

To test whether the address displayed is also accessible, enter the command "ping -6 IP-address". The tests should function smoothly in Vista and Windows 7; in XP, you will have to activate IPv6 manually using the command 'netsh interface ipv6 install' in the command line. You will then find the entry 'Microsoft TCP/IP Version 6' in "Start | Control Panel | Network Connections" under the properties of your LAN connection.

Test on the network

At www.test-ipv6.com, you can see at a glance whether your PC already uses IPv6

Test your IPv6 connectivity.

Summary | Tests Run | Technical Info | Share Results / Contact

- 1 Your IPv4 address on the public Internet appears to be 203.197.77.37
- 2 No IPv6 address detected [\[more info\]](#)
- 3 World IPv6 day is June 8th, 2011. No problems are anticipated for you with this browser, at this location. [\[more info\]](#)
- 4 You appear to be able to browse the IPv4 Internet only. You will not be able to reach IPv6-only sites.
- 5 Your DNS server (possibly run by your ISP) appears to have no access to the IPv6 Internet, or is not configured to use it. This may reach IPv6-only sites. [\[more info\]](#)

Your readiness scores

10/10 for your IPv4 stability and readiness, when publishers offer both IPv4 and IPv6

0/10 for your IPv6 stability and readiness, when publishers are forced to go IPv6 only

Click to see [test data](#)

(Updating server side IPv6 readiness stats)

To communicate on the Internet via IPv6, first check your router. Many home routers don't support IPv6, and it isn't known whether manufacturers will release updates or if it will even be possible. If the device supports IPv6, the protocol is also often deactivated and needs to be activated manually.

How safe is IPv6 on the Internet?

With the IPv4 protocol so far, personal address usually change every 24 hours or so, due to the way in which service providers assign dynamic addresses as and when users connect. IP addresses can also change if there is a break in the connection, or if you reboot your modem/router for any reason. These addresses cannot be traced back to a specific user later, unless the service providers save logs over a long period (as some data retention laws require). Even then, only the household can be identified, since the address applies to the modem or router in the premises (or a PC, if it is the first

and only device that uses the connection). Individual PCs, phones and Wi-Fi devices then have internal IP addresses on your home network. Thus, data miners like online shops, search engines and advertising engines cannot create super-accurate user profiles merely on the basis of the IP address.

With IPv6, every Internet-compatible device can have a fixed address, which it retains permanently. This is called the Interface Identifier. From the point of view of data protection, the addresses are a problem, because this will allow fine-grained tracking to the extent of what kind of sites you visit on your PC as opposed to your phone. This is why a "Privacy Extensions for Stateless Address Autoconfiguration" has been introduced. Here, depending on its configuration, a network device can regularly receive a new IP that the system creates for it. In Windows, you need not worry about this configuration as the operating system refreshes its addresses automatically. Windows 7 normally changes the IP after a day, and this period can be manually extended to maximum seven days. Mac OS X and Linux have deactivated the privacy extension by default; the user will have to take care of his security.

Smartphones are more problematic, as these modern devices always use IPv6 addresses if the protocol is available over Wi-Fi. However, the two most popular mobile OSes, Android and iOS, do not have any kind of privacy extension. Apple has at least responded and provided such a function with iOS version 4.3 for the iPhone 4 and 3GS; older iPhones however still send only their fixed IP. Google has not yet stepped in, and if you want to make the IP address of your Android smartphone anonymous, you will have to mod or hack your phone and store a self-crafted script in the system. Without a privacy extension, IPv6 addresses are just what data miners have been praying for. If

This is how you make your hardware fit for the IPv6 transition

You can equip many routers with the IPv6 functionality via a firmware update. If a suitable firmware is not available for your old router, simply replace the default software with an alternative system: log on to www.dd-wrt.com to find firmware packages for routers of most common manufacturers, with which you can update your device and equip it with numerous additional functions. Find out whether your router is supported by entering the exact model name in the database search box.

you activate the security function, you are equally safe on the Internet as with IPv4.

Can I test IPv6 on the Web?

At this time, pure IPv6 pages are very rare. According to research by the European Union's Organization for Economic Co-operation and Development, only 1.45 percent of the 1000 most frequently visited websites worldwide are accessible via the new network protocol. The trend is catching on, as many web administrators have started modernizing their servers with IPv6 support and have been in testing for some time.

Visit the site test-ipv6.com to test your devices for IPv6 compatibility. The test takes place automatically, and takes only a few seconds. In a clear summary, the page will then show you whether a connection could be established, and how stable the transfer was.

World IPv6 day, on June 8, saw Facebook, Google and Yahoo among others activate IPv6 for 24 hours. The Web giants used the day to test their hardware and software under realistic conditions. No disruptions were observed, but there was still a negligible amount of IPv6 originating traffic, proving everyone still has to come on board.

If your PC equipment survives the live test without any problems, you can calmly go about surfing the Web without any worries. If not, your ISP is probably already working on infrastructure overhauls, since in any case a complete switch to IPv6 is inevitable. 🇨🇦

- feedback@chip.in

This is how you identify your IPv6 network

2001: This prefix stands for a direct IPv6 connection on the Internet. For that, PC, router, provider and the server visited must have the protocol.

2002: An IPv6 connection is tunneled in an IPv4 protocol. This is the case if your computer and the web server have IPv6, but the provider has not switched over as yet.

fd00: The identification stands for a unique local address in a network. The router does not lead this address to the Internet.

fe80: The protocol selects this address in an automatic configuration - it is used only locally and is not valid on the Internet.

Web Watch

Here are some interesting websites you might want to visit.
COMPILED BY PRIYANKA TILVE



SMARTART.IN

A picture can speak a thousand words. If you frame an image, whether it is a mere printout, a poster, a photograph or a canvas, and hang it on a wall, it will definitely liven up the place.

Smartart.in is a site that brings to you some of the finest art prints and posters from celebrated artists across the globe. You probably think that these would be expensive, but you'll be surprised to know that site has something to suit every budget, starting at Rs 500. The art prints available are high quality reproductions of original art works, which can be printed on various surfaces like paper, canvas etc. You can select from various forms of art like fine art printing, illustrations, photographs, movies, music, etc. All these are licensed reproductions. You can even choose art work based on the color of your décor or you can look for sets of images.

Apart from this, you can choose from limited editions or canvas prints. Limited editions are printed with archival inks on acid-free paper and canvas for closest reproduction to the original artwork. These are then proofed, individually signed and numbered by the artist. The canvas print is a high-quality digital reproduction of an image directly onto canvas. There is also a gifting option available on the site, which is perfect for sending art as a birthday or a housewarming gift. It doesn't matter what part of the country they are in; simply log in, select the art, place an order, and the art will be delivered at their doorsteps.



MUMBAIBOSS.COM

If you like Faking News and other satirical sites, then you will simply love MumbaiBoss.com, especially if you are from Mumbai. But even if you aren't, that shouldn't come in the way of enjoying the site, as it also has non-city-centric posts. In their own words, MumbaiBoss covers the city in all its chaotic, seeping, shivering, all-encompassing splendor, clueing you in on the best of what's out there. They cull through the crap (literally and metaphorically), scouring the city for the best of the most random, exciting, and occasionally informative material.

There are six categories, namely News, Culture, Events, Food & Nightlife, Shopping & Fashion and Guides. The Culture section, which is further sub categorized into Art, Film, TV, Music, Books, etc. is particularly funny. Under TV, you will find weekly reviews of India's Most Desirable hosted by Simi Garewal; it's hilarious! The reviews will have you laughing your guts out. Without stating the obvious (and at times by doing so) they rip the show apart and it's definitely worth a read. You'll also find reviews for latest movies, music albums, books etc. which are at time serious.

It's Food & Nightlife section offers genuine reviews of local restaurants, bars, etc in Mumbai. It also features interviews with the restaurant owners and other celebs in this space. Its Shopping & Fashion section will provide you with a lowdown on the latest buzz in the fashion industry and also keep you updated with the latest bargains.



OLX.IN

Classifieds aren't limited to newspapers anymore. In its online avatar, it takes form of a more robust marketplace that brings buyers and sellers together. Olx, which is a free US-based online classified website, is looking to strengthen its presence in India. Globally, Olx receives over 70 million unique visitors and 500 million page views per month, and almost 2 million new ads are posted every month.

What sets it apart from other online marketplaces like Ebay is that while you can transact on Ebay, you can't do so on Olx. Here, you will find the contact details of the person and you can contact them directly. So it's purely a classified listing. You can put up a listing for goods and services ranging from electronic items, cars, bikes, real estate, books, toys, or services like tuitions, catering, baby sitting, etc. Unique to India is the matrimonial category. Another plus point is that the site is also available in local Indian languages, including Hindi, Tamil, Telugu, Kannada, Malayalam and Marathi. This will aid the local users to make better use of the services. It even allows users to design their own classified ads using features like videos, pictures, etc. and display them on social networking sites like Facebook and MySpace.

The categories are messed up a bit, so you might sometimes find bike listings in the books section. If they iron out these little niggles, then the site could find many takers. It also has a mobile site and even an app for the iPhone and Android OS.

EVERYONE HAS A MOBILE PHONE THESE DAYS, BUT MOBILE ETIQUETTE IS SORELY MISSING.

PRIYANKA TILVE,
SENIOR FEATURES WRITER



TROOPP.COM

If you always wanted to volunteer to do something good for society, but didn't know where to go or couldn't find time from your hectic schedule, you can check out Troopp.com. It's a newly launched site that aims to bring together various NGO's from across the country and those who wish to volunteer. In their own words, they are trying to create a thriving eco-system that promotes doing good for society in a very simple and neat manner. They believe that the concept of 'Micro-Welfare' can solve the huge problems facing our society. Troopp is working towards a time when every non-profit and NGO on the planet has the resources and knowledge they need to operate at their full potential.

An NGO can register itself on the site and then post its requirements. Users can then browse through the various listings and select the one that interest them. The jobs can be something that you can do online like translations, research, Web design, writing, editing, video editing, etc. or something that would require you to be outdoors like events, training, marketing, public speaking, etc. It's a great place where you can lend a helping hand and do good. It's also a great place to interact with like minded people.

Additionally, it has features like Peer Market, where you can buy/sell things with fellow Troopps, and Micro-wire, a Twitter-like service, but strictly related to trooping related issues. You can register on the site or simply login using Facebook.



MOBILE ETIQUETTE

Thanks to the number of brands flooding the market, there is a phone to suit every budget and every pocket. While this is not necessarily a bad thing, the trend has some annoying repercussions. Everyone has a mobile phone these days, but unfortunately, mobile etiquette is more or less non-existent.

A couple of days ago, I was watching a play. Before the play commenced, we were instructed to keep our phones on silent. This is to ensure that the actors do not get distracted with phones ringing. It's a very simple request and not at all difficult to follow. But five minutes into the play, somebody's phone started ringing at full volume and it continued long enough to cause the actors to halt their performance. It was not only a dampener for the actors, but also those in the audience.

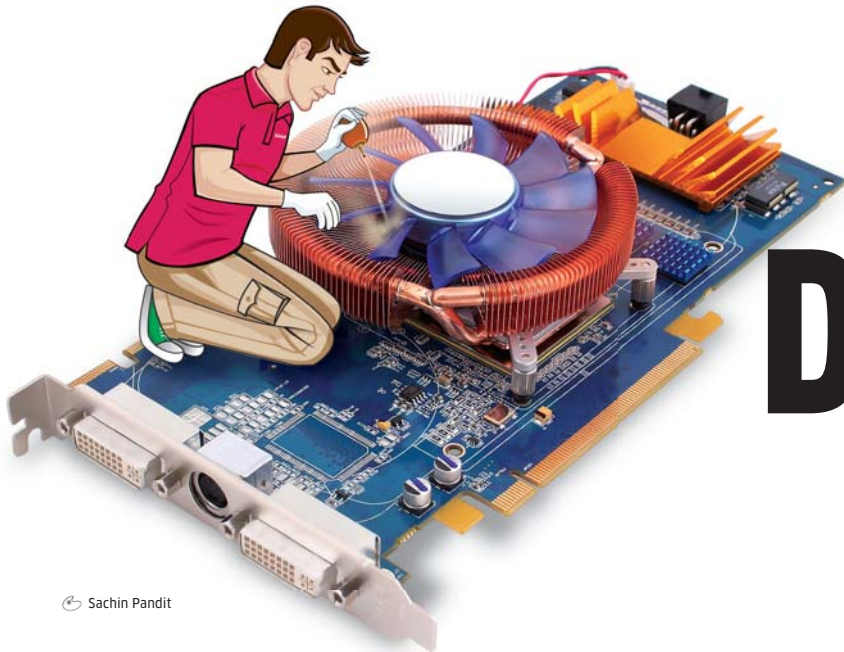
How difficult is it to keep your phone on silent? I understand that one would not want to switch off their phone, but leaving it on silent shouldn't be so hard. After all, it's only a matter of a couple of hours. Sadly, you will find such annoying people everywhere, be it at a play or a movie theater. I remember a lady sitting next to me at a movie theater, who had her cell phone on silent, but insisted on taking every call and then gleefully announcing to the caller, "I can't talk with you right now; I am watching a movie". Why answer the phone at all when you know you can't

talk to whoever it is? You don't need to pick up the phone to say that; simply send an SMS.

What people also fail to realize is that the mobile phone is a personal communication device, which means you're supposed to keep your conversations private. Sadly, that's not the case. I take the train to work everyday. They're noisy enough as it is, especially the ladies compartments; all the people speaking loudly on their phones only makes matters worse. Some cribbing about their mother-in-laws, some bitching about their co-workers, some having fights, some romancing with their boyfriends. All this gossip can give the daily tearjerker soaps a run for their money.

Talking loudly on the phone is annoying, but what's worse is people listening to music on their phones via the speaker. These people aren't limited to trains, and many of them refuse to use earphones despite of being politely asked to do so. It's amusing to see people holding the phone close to their ears so that they can listen to music. A friend has come up with a brilliant solution to tackle people like this; she simply plays rock music on her phone on speaker. The cacophony of the sounds from the resulting fusion is enough to drive people crazy, sending out the message loud and clear (no pun intended). Try it; it works. 📱

- priyanka.tilve@chip.in



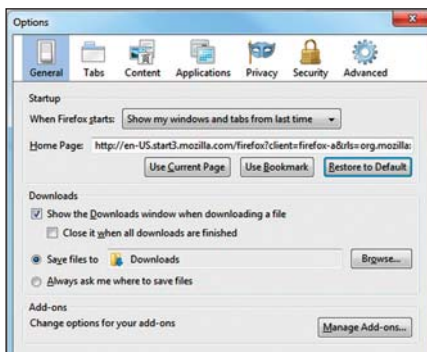
Sachin Pandit

Dr CHIP

SEND YOUR QUERIES TO: drchip@chip.in

[Q] Hi Dr CHIP, I am a fan and constant reader of all the CHIP issues. Please help me in this problem. I use Firefox 4 as my default web browser. Recently as I was on Facebook I received an option to make Facebook as my default homepage and I accepted it. Now I regret doing so as I can no longer access my Firefox homepage as before. Please let me know how can I replace the Facebook page and get my Firefox default homepage back again. Thank you for your help.

– Prajay shah



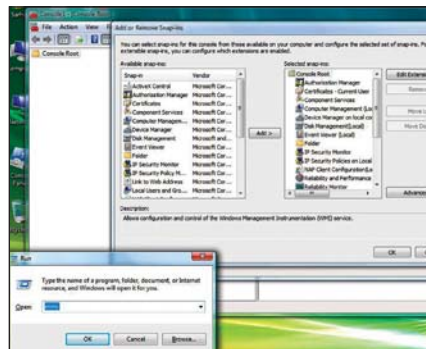
Click on 'Restore to Default' under the 'Startup' section. Your default homepage will be restored.

[A] Hello Prajay. In order to reset the home page in Firefox, you should do the following. Start Firefox, click on 'Tools' and then on 'Options'. In the following window, click on the 'Restore to Default' button under the 'Startup' section. Your default home page will now be restored. Alternatively, you can also type in the desired web page in the 'Home Page'

field. When done, click on 'OK' and restart Firefox.

[Q] Hi CHIP. My Sony VAIO VGN-FE890E laptop's configuration is as follows. Intel Core 2 Duo T5600@1.83 GHz processor, 2 GB of RAM and running Windows Vista Home Premium as the operating system. I tried to use the Group Policy editor by using the command in 'Start Menu | Run' – 'Gpedit.msc' but it displays a message stating that "Windows cannot find 'gpedit.msc'. Make sure that you have typed the name correctly, and then type the name again." What should I do?

– Ahmad Nabeel



The article helps enable the Group Policy Editing utility on Windows Vista Home Premium.

[A] Hello Ahmad. The Group Policy Editor is not available in the Windows 7 Home Premium edition by default. You will either need to upgrade your Windows 7 operating system to a higher version or tweak a few things to get the Group Policy Editor installed on your present operating

system version. In order to do so, you can refer to a very good article online (by Hiroshi) on how to do it. As it is too long to explain here, the link to the website is stated ahead. Enter the following URL in your browser and follow the instructions carefully <http://go.chip.in/gpe>.

[Q] Hello Dr CHIP, I am a regular reader of your magazine. I have a problem regarding my LG CRT 17-inch 700E SVGA monitor. My monitor screen has been affected by a magnetic field without any reason and it shows weird colors on the boundaries. It is quite irritating to look at and work with. I have tried degaussing using the monitor's buttons and also changed the monitor's position, but nothing has helped. Please help me out. Thanks in advance.

– Vikram



Degaussing coils are available in the market in various shapes and sizes but are pretty expensive.

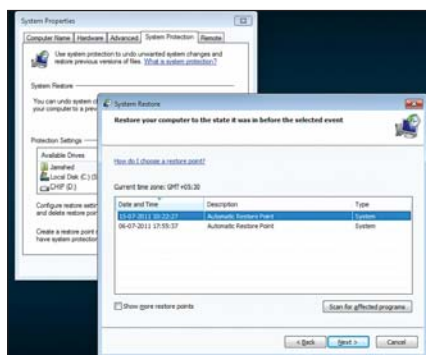
[A] Hello Vikram. A messed-up colored screen is usually caused due to a magnetic source located near the CRT

tube of the monitor. Usually speakers, telephones, power adapters and other toys and gadgets that either contains magnets or transformers cause this problem. The CRT tube gets partially or heavily magnetized and causes colored patches on the screen which remain there statically and diminish over a very long time. In this case, the monitor needs to be degaussed or de-magnetized. Unlike CRT TVs, CRT monitors usually have their own degaussing unit built into the monitor itself, which can be activated from the monitor's control panel buttons. But in certain cases, the magnetization is quite heavy and needs to be done externally. There are a few methods of degaussing the monitor. The most expensive method is buying a degaussing coil (available in the market) and waving it around the monitor in a specific pattern, but these coils are practically useless as you will not require it on an daily basis. The other method is to use a powerful magnet (you can get one from a toy shop or use one from an old speaker). To do this, start Microsoft Paint and maximize the window completely. This will show up a complete white screen using which you can easily spot the magnetized area which needs to be worked on. Now bring the magnet closer to the area (keep a distance of at least 3 – 5 cm) and you shall notice the colors changing or increasing accordingly. Now slowly spin the magnet in a clockwise or anti-clockwise direction and then gradually move the magnet away from the spot towards the corner of the screen. You will see a difference; either the colorization has reduced or spread to another area. Repeat this procedure till you eradicate the colored patch completely. You should also use the degaussing switch of the monitor in between this procedure. Another method is to securely paste the magnet on a drill machine bit and spin up the machine. The spinning magnet does a better and faster job, but is quite risky if the magnet comes loose.

[Q] Dear Dr CHIP. I am from a small town named Koraput in the state of Orissa. I have a Lenovo IdeaPad Y430 laptop and the model number is 27813DQ. I have been using it since the last two years. Since a year now I am using Windows 7 Ultimate. Recently, it

has started hanging. If I just leave my laptop idle for a while or if I work with Photoshop CS5, it freezes up and then nothing works. I tried the [Ctrl] + [Alt] + [Del] and [Ctrl] + [Shift] + [Esc] keys but nothing helps. Then I have to keep pressing the power button to force it to power off and restart it. Then it works normally again. It never hangs when I play any game; even with high graphics, but after I finish playing and keep it idle, it hangs. Please help me fix the problem. I will be very grateful. Thank you.

– Santanu



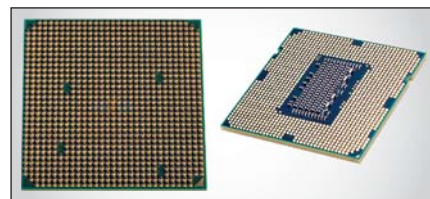
Performing the System Restore procedure may help resolve the freezing issue.

[A] Hello Santanu. You are in a tricky position and finding the solution to your problem is going to be tedious. There are several possibilities that can affect the freezing of your laptop, especially when left idle. It could be a software or hardware component causing the problem. Check if your system still suffers in Safe Mode. If it does, then it can be a hardware issue. You might also need to try updating the BIOS of the motherboard. If it does not hang when in Safe Mode, then it is purely software or a device driver issue. Check which software you installed before the issue cropped up. Try uninstalling the software one after the other and you might find the root of the problem. Also, try updating the operating system and all the drivers of your laptop from the manufacturer's website. Try a system restore if needed. I had faced a similar issue a long time ago and found that Skype was the application responsible for freezing the system. It surely will take a long time to find the problem.

[Q] Dear Dr CHIP. I have an Intel Dual Core 2 GHz processor. Now, I am

planning to upgrade to an AMD Athlon II x2 260 processor. I need to know if I can upgrade the processor without changing my motherboard.

– Shivansh Tripathi

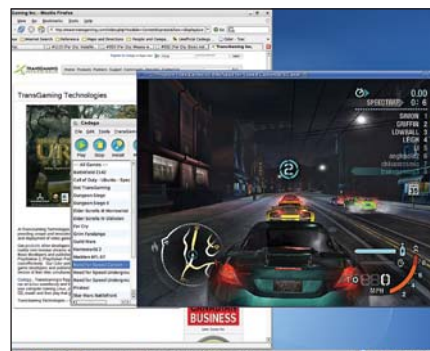


Intel processors are pin-less, while the AMD's have pins and cannot be used on Intel-based boards.

[A] Hello Shivansh. You cannot install an AMD CPU on a motherboard that supports an Intel processor. The two chipsets are completely different and the socket types of both Intel and AMD are completely different (Intel processors are pin-less while the AMD processors have pins). You will need to use a compatible motherboard too if you are planning to use an AMD processor.

[Q] Hello Dr Chip. I have a desktop PC with Ubuntu Version 10.10 installed on it. I have some queries regarding Ubuntu. How can I install Windows-based software, especially games, on Ubuntu? Also, I am planning to buy a USB modem for Internet surfing. Which service is recommended and which service provider is most economical? Thanks in advance.

– Sooraj



The only way to run Windows applications on a Linux operating system is by using 'Wine'.

[A] Hello Sooraj. You cannot install Windows applications on a Linux operating system. The only way to do that is using 'Wine' on Ubuntu. As far as Internet speed and price is concerned, almost all ISPs are similar and differ from city to city. Their price depends on the

market condition and their service and speed again depends on the distance of the USB dongle from the cell tower in your area. Also affecting the performance of the Internet is the networking load of the particular cell tower in your area. If too many users in your area are using a single tower for communication, there are often call drops and decrease in Internet speeds. Finally, all companies have their 'Conditions Apply' asterisks. They usually specify unlimited usage with 3.1 Mbps speeds, but their download plans are capped with their so-called "fair usage policy", which is a maximum of 10 GB per month. After you have utilized 10 GB of data, your speed will be reduced until the end of the month. I had tested Reliance Netconnect and was satisfied with the performance. I did suffer from speed issues in certain areas, but the overall experience was good. If you want a wireless Internet connection for your PC, I would recommend that you do a little research in your area/city. Check with friends and relatives and find out if they are happy with the speed and services. Also check online on different forums where people from different areas have shared their experiences. Make sure you do this because once you have purchased the USB dongle/modem, you cannot sell it to anyone or return it for a refund. The modem is completely useless once it is de-activated. If you are able to get a trial, I would suggest that you try out all the ISPs in your area before picking one.

[Q] Dear Sir. I have a Compaq Presario SG2044IL desktop PC. There is an option for adding a front I/O panel (having two USB ports and two audio ports) to my present cabinet which is a mid-ATX cabinet. I have also checked and confirmed that my motherboard also supports the front panel USB and audio header connections. I want to know whether a front panel I/O port (USB and audio) accessory is available in the market. If not, can I contact HP to order one? Hope you can help me as soon as possible.

— Amal Wilson

[A] Hello Amal. Most motherboards support front panel USB and audio ports, but it will purely depend on the type of computer case you are using. In your



The workshop features adding a USB and FireWire port on the front panel of older computers.

case, the manufacturer has not supplied the front panel I/O panels and you will need to call HP Compaq for it. You will need to specify the desktop computer model number in order to get the right part. If the company does not sell any of these product spares, you can also make one for yourself with a little help from a friend who has some computer knowledge. He will have to make the necessary connections and install the panel for you. It will require time, patience and the necessary components to make one yourself. The panel can be made in under Rs 200 with the help of a few new and old computer parts. If you are only concerned with having front USB ports and can make do without the audio jacks, you can refer to a workshop featured in the March 2009 issue of CHIP, which guides you on how to make a front panel USB and FireWire port on a computer case which does not have provisions for the same. The article is available online at <http://go.chip.in/fpusb>. You can take this workshop a step further and include audio jacks too, but only if you have the knowledge of the wiring and have the necessary parts for the same.

[Q] Dear Dr CHIP, I have a desktop PC with Windows XP operating system. When the system starts, it displays a blue screen with the error "Unmountable_boot_volume". I searched online for a solution and it seems that the only way to fix this problem is to reinstall Windows XP completely. I don't have the Windows installation CD with me. I asked some of my friends for a Windows XP CD, but neither of them had one. Now what should I do? Please help to fix this problem. Thanks in advance.

— Sooraj Rajendar



This error is seen on older PCs running Win XP SP1 due to an unrecognized hard drive or partition.

[A] Hello Sooraj. This error is usually seen on older computers running Windows XP Service pack 1. The reason for the error is an unrecognized hard drive or partition FAT system version. If you can boot into Windows, try updating the operating system with the Windows XP Service Pack 3 update patch. You can download the Windows XP Service Pack 3 from <http://go.chip.in/xpsp3> and install it. Note: you should have SP1a or SP2 already installed on your PC in order to install SP3. If you cannot boot into Windows, you will need the Windows XP installation CD to repair the boot sector of your hard drive. Boot from the CD and choose the option to boot into the Recovery Console mode by pressing the 'R' key when asked and follow the necessary steps on the screen. Later, at the command prompt window, type the command 'chkdsk /f' to scan and repair any errors with your hard drive. Once the process is complete, type the command 'fixboot' and press [Enter] key to allow it to repair the boot sector. Once done, restart the PC and check if all is working fine. If not, you might need to reformat the hard drives and install Windows, but do take a backup of your data by installing the hard drive on another PC and copying the data to an optical disc or an external storage. I would recommend upgrading your operating system to Windows 7 if possible.

[Q] Hi Dr CHIP! How are you? I am proud being a CHIP reader. I felt very happy while seeing your reply earlier. I know you are very busy, but please don't neglect my emails. Please reply as soon as possible. Thanks. My queries are as follows.

1. What is page-file? It is in the

Windows directory. Defragging the page file by page defrag (using the utility from Sys Internals) is possible. Does it help the system to boot speedily? In many articles you have recommended to change the file to another drive by customizing it. Why should one do this?

2. In my all computer's hard drives, a folder named 'RECYCLER' and 'System Volume Information' are been seen. Are these folders viruses or system files? They are hidden too. Whenever I double click the folder 'System Volume Information', the message 'Access is denied' pops up. Should I delete these folders?

3. What are bad sectors? Why they are created in hard drives? How do I prevent them?

4. How to find out if an installed operating system is a 32-bit or a 64-bit version?

– Deivik



Hard drive platters contain a magnetic coating that can be damaged by even a small spec of dust.

[A] Hello Deivik. Let me answer your queries in parts.

1. Pagefile: Pagefile or 'Pagefile.sys' is usually located on the primary hard drive or partition and seen in the Windows folder. This file is reserved by the operating system and is used as an extension of the system memory or RAM. The OS dumps information data that is not used frequently or recently into this 'Pagefile'. Whenever the system requires the data again, it searches this file for the data rather than scouring the hard drive, which takes up more time. Hence, the pagefile actually acts as a temporary volatile memory so that the actual system RAM can be cleared of unwanted data to speed up the system. You can resize this file or memory size according to your preference using

the Administrator mode, but it is recommended to let the system manage the size. Some recommend shifting and/or defragmenting this file to another physical drive because it can increase the performance.

2. Recycler and System Volume Information: These are hidden folders created by the operating system. While the 'Recycler' folder is where your deleted files are stored (Recycle bin), the 'System Volume Information' folder stores all the system restore points created by the OS. You cannot and should not delete these folders, but if you disable the system restore and set the properties of the Recycle Bin to delete files permanently, you can get rid of these folders. Viruses are known to attack and reside in these folders, so make sure you have an updated antivirus to scan them.

3. Bad sectors: A hard drive is made up of sectors and each sector contains data. Your files are stored in sectors on the hard drive. As hard drive platters are coated with a magnetic material that stores the data, if a particular part of the coating is destroyed, the sector starts losing the information stored and cannot store information properly, causing errors in data reading and writing. These damaged sectors are known as bad sectors. Scanning a drive with a disk repairing utility helps recover the data from these sectors and move it to a good sector. The damaged sector is then marked as 'Bad' and the system is then informed not to write or read data on these sectors. Older hard drives usually start generating bad sectors and need replacement. There are two types of bad sectors—physical and logical. Physical bad sectors mean that the physical platter of the hard drive is failing and the entire drive needs to be replaced as the bad sectors can be contagious. Logical bad sectors are errors in the partition table information which miscalculates the data read and write procedures. These types of bad sectors are not actually physically damaged. You can rectify these sectors by taking backups of the entire hard drive and repartitioning and reformatting the entire drive.

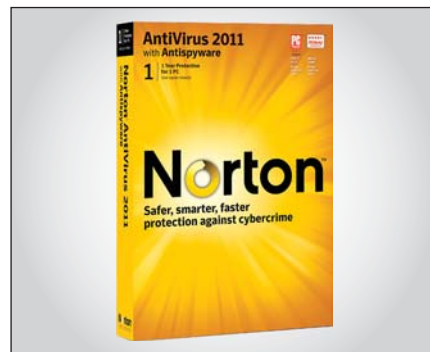
4. OS Version: To find out if your operating system is a 32-bit version or a 64-bit version, you should right-click on 'My Computer', then click on 'Properties'.

The system properties page will then be displayed which carries information about your hardware and operating system. The version of your operating system will be highlighted there too.

Hope this information is what you are looking for and I have managed to answer them respectively.

[Q] Hello Dr CHIP, The day after I installed Office 10 from Microsoft's site, my laptop failed to boot. What might be the problem? My laptop is a HP Pavilion G61004TX. Thanks.

– Arnav Kohli



Scan the hard drive and other storage with a good, updated antivirus to rule out any viral infections.

[A] Hello Arnav. Your laptop issue of not booting might be related to several reasons. It could be a possible virus or a system file corruption. There could also be an issue with the hardware. You will have to troubleshoot accordingly. Firstly, if your laptop starts up with proper display and you can enter the BIOS, it means your hard drive is either faulty or your operating system has crashed. If you get errors while Windows is booting, such as a blue screen or any other errors, then your hardware seems fine, but your operating system is damaged and needs repairs. It could be a virus infection too. Try your system recovery disc that came along with your laptop. You might lose your data in the bargain. Try booting your laptop using a Linux live CD/DVD such as Knoppix or Ubuntu. Connect an external hard drive or pen drive and try rescuing your data. Once done, try the recovery disc and restore your operating system. Or format the hard drive completely and reload the entire operating system. Scan your hard drive and other storage media with a good and updated antivirus to rule out any viral infections.

[Q] Hello Dr CHIP. I bought a Reliance Net Connect Broadband+ internet dongle. The company claims a maximum speed of 3.1 Mbps. I want to know when I will get a speed of 3.1 Mbps. The Reliance Net Connect Application that is installed on my PC shows signal strengths of 95 % and above but it only delivers a maximum speed of 150 Kbps. Kindly help.

— Sameer



Many ISPs claim their USB broadband dongles can attain internet speeds of up to 3.1 Mbps.

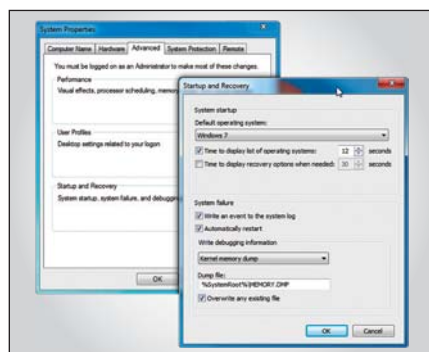
[A] Hello Sameer. Since ISPs such as Reliance, Tata, and MTS claim their USB broadband dongles can attain internet speeds of up to 3.1 Mbps, there is no assurance that the speed will be maximum and also no surety of a stable connection. Since these internet connections use cell phone towers for connectivity, there will always be an issue of stability and speed. These factors depend on the distance of your USB dongle to the cell phone tower in your area, the amount of users connected and using their internet dongles and cell phones in that area, and also the load handling of that particular cell tower. If there are too many users connected to the cell tower, the speed will be affected, as will the stability of the connection. It is up to the ISP to manage the internet connection speed. If they are throttling the speed at their end, you will never know it. I have personally tested a Reliance internet dongle claiming 3.1 Mbps connectivity. In my office, the computer is in the center of the floor and download speeds gained were not more than 85 KB/s, but when I tried it at my residence at the outskirts of Mumbai, the speeds were 150 KB/s. There were times at night when the speeds were pure 3.1 Mbps or 300 KB/s. There are issues such as distance and connectivity load which

can hamper the speeds of a wireless connection. If you feel you are still not able to gain better speeds, I would suggest you use the dongle on another PC in the vicinity and also use the dongle on your PC/laptop and try the speed tests in two or three different locations. You can approach your ISP and complain of the problem and they will help you out.

[Q] Hello Dr CHIP. I have been reading your magazine for over six years now. I have a Dell Vostro 1088 laptop and I'm using Windows 7 Starter Edition. I had installed Windows 7 Home Basic Edition, but instantly removed it. The laptop still shows the option to select Windows 7 Basic at boot. How do I completely remove the traces?

— Ayan Kumar

[A] Hello Ayan. It feels nice to know that you want to be the first to read the CHIP issue as soon as it is released, but I would suggest you don't bunk your classes to do this. Why don't you subscribe for CHIP and have your own copy and read it whenever you want to. You can alternatively purchase your own copy from your local magazine/



In the dropdown list in the 'Default operating system' section, select 'Windows 7 Starter'.

newspaper vendor. Now for your query—since you have removed the Windows 7 Home Basic, you will still get the option of choosing between the two installed operating systems even though one has been removed. To make it very simple for you I would suggest you follow these steps.

- ▶ Right-click on 'My Computer' and select 'Properties'.
- ▶ On the left pane, click 'Advanced System Settings'
- ▶ In the window that will pop up next, click on the 'Settings' button under the 'Startup and Recovery' section.

- ▶ The next window that pops up will highlight a few parameters. Under the 'Default operating system' section, you will find a dropdown list where you should select 'Windows 7 Starter'.
- ▶ Next check the 'Time to display list of operating systems:' box and reduce the time to '0 seconds'.
- ▶ Click 'OK' and save all settings.

Now your system will automatically start in Windows 7 Starter Edition without prompting you about the other operating system. Since Windows 7 does not feature the Boot.ini file any more, you cannot remove the older entries easily. Though there are utilities that can do this for you, I would suggest using the above method for a safer approach.

[Q] Hi CHIP. I have been reading CHIP for quite a while now, and have to admit that I have solved many computer related problems straight out of your column. Thank you! I am facing a strange problem. When I turn on the PC it does not boot up. The monitor seems powered off and there's no beep sound at start up too. The PSU, graphics card, and CPU heat sink fan seem to be working fine. I hope the information provided is helpful enough. Twice a computer technician came home and did some servicing, but after couple of days the same problem revived. The PC's configuration is as follows: Asus P5Q motherboard, Intel Core 2 Duo processor, Corsair 450 W power supply unit, 2 x 2 GB Transcend RAM, two hard drives (a 500 GB and 1 TB) both Seagate, LG 20 x DVD drive and an ATI Radeon 4850 graphics card.

— Abhijet

[A] Hello Abhijet. As per your information about the failure of the PC in booting up, it seems to be a problem with either the power supply or the motherboard. It also seems a possibility of a loose connection between the motherboard and the RAM or the power supply connectors. I would suggest that you get the service engineer to completely clean the internal components and have a checkup on the motherboard and the power supply. Try changing the respective components and check it for a few days. I am sure the problem should be resolved. 📧

— Send your queries to Francis D'Sa at drchip@chip.in

Custom Boot Animations For Android

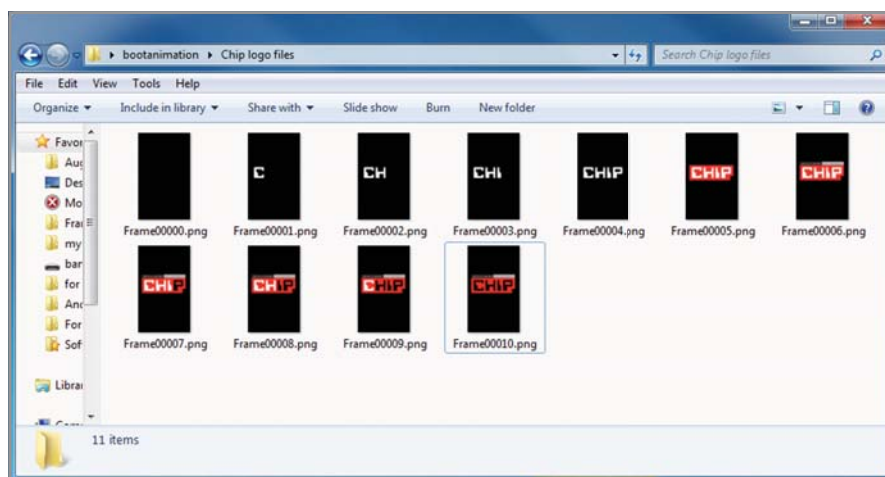
The greatest advantage of an Android smartphone is its customization options. A custom boot animation will let you replace your handset's default boot screen with an animation of your liking, which it will display while your device starts up.

BY FRANCIS D'SA AND KUSHAL MAMOOWALA

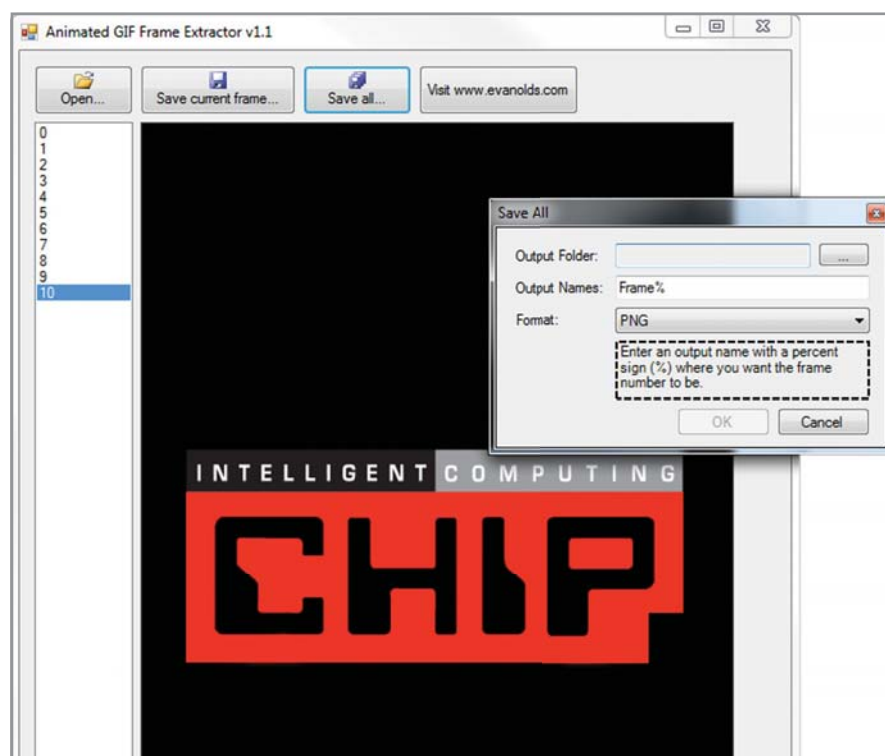
Most stock and custom ROMs have their own boot animations built into the ROM itself. While some are simple and plain, others are custom designed by their developers. A boot animation is the animated short video that gets displayed while your Android operating system is loading in the device's memory. It is similar to that of a desktop PC, where the initial animations such as 'Starting Windows' is displayed on the screen while the operating system is unpacking and loading system files in the background. The boot animation is a simple video or animation cover up for all the processes that run in the background during startup. Similarly, for an Android device, the boot animation can be custom modified to your preference. This simple workshop will show you how you can create and install your own personalized boot animations to suit your style needs. All you need to get your own boot animation on your Android handset is a simple photo editing tool, a file explorer app with root permissions to the system folder, and a rooted Android handset. Let's show you how it's done.

Step 1: Create your own custom animation

Android phones do not directly run animated GIF files as the boot animation; they display a series of images displayed at short intervals on the screens to create the animation video. You can create a series of animated frames of your choice or download a GIF animation and extract individual frames using a utility called 'Animated GIF Frame Extractor'. You can use any GIF extractor utility of your choice. Save each individual frame (created personally or



Frames of our custom animation are named in series starting from 'Frame00000.png' to 'Frame00010.png'.



You can use Animated GIF Frame Extractor to extract individual frames from an animated GIF file.

extracted from the GIF animation) as PNG or JPEG files and then rename them in the correct order with a number suffix starting with '00000' for the first frame. For example '00000.png', '00001.png', '00002.png', and so on.

NOTE: It is advisable to ensure that the frames match the resolution of your handset's display to avoid distortion of your boot animation. You should also try and keep the file size of your images as small as possible to get a smooth boot animation.

Step 2: Making compulsory folders

Once you have your frames for the custom boot animation ready, you must create a few compulsory folders and name them as 'part0', 'part1', 'part2', and so on. Your device will display images from these directories to form the boot animation. If you have created an animation that contains multiple series of frames that need to be looped separately in a particular order and time, then you must save the frames for each sequence in the individual folders. For instance, if your animation contains frames that must be shown only once, followed by frames that must be looped, then store the 'once show' frames in 'part0' and the looped frames in 'part1'. If there are two different looped series, then store the second series of looped frames in 'part2', and so on. In the next step, you will learn how to instruct your Android OS to run the animation by entering the number of times and speed of each frame that needs to be looped. To test your animation before you use it on your Android handset, you can use any GIF animator application to see it



Your archive format must be .ZIP and compression method must be 'Store'.

on your desktop PC before finalizing the animation.

NOTE: The numbering of your frames should continue from one folder to the next. For instance, if 'part0' contains files numbered from '00001' to '00005' then the first frame in the 'part1' folder should be numbered '00006'.

Step 3: Instruction text file

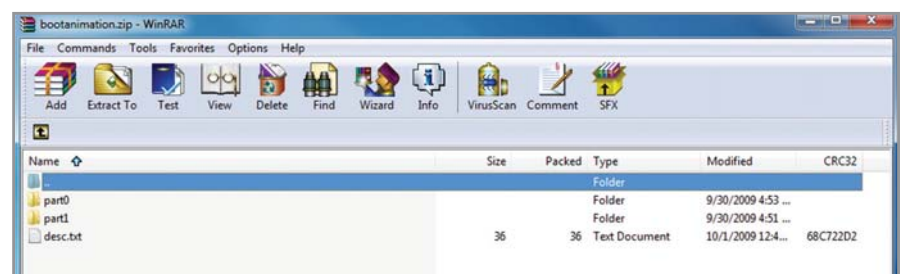
After organizing your animation frames in the respective folders, you must create a simple text file that provides your Android device with instructions on how the animation progresses, what images to use, the dimensions of your animation, etc. You can use any text editor for this. The text file must be named 'desc.txt' and the instructions must be typed in the format shown in the adjacent screenshot.

NOTE: You can choose any screen dimension/resolution for your animation display. If your screen dimensions are not the equivalent to the resolution of the image files, you might either land up with a stretched or out-of-shape image. To avoid this, make sure you specify the resolution of your images rather than the display size or edit your images to suit the resolution of your display screen.

Step 4: Compressing the animation

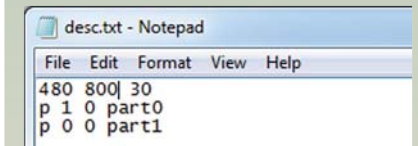
Now that all animation folders and the description file are ready, they must be packed in a single non-compressed archive in ZIP format. To create the ZIP file, you can use WinRAR or WinZip. Select all the animation folders and the text file, right-click, and select 'Add to archive'. In the 'Archive name and parameters' window, select the file format as ZIP, and the compression method as 'Store'. Finally, name the file as 'bootanimation.zip'.

NOTE: Any other file format such as RAR or a compressed file will simply not work.



Your archive file titled 'bootanimation.zip' should contain your animations folders and the description file, and they should not be contained in any other folder.

CONTENTS OF TEXT FILE



- ▶ The first line of the text file describes the dimensions of your animation and the frame rate. '480' denotes the width of the animation, '800' denotes its height and '30' is the desired frame rate (fps) of the animation.
- ▶ The following lines describe the instructions for each folder of animated frames.
- ▶ In the second line, 'p' defines an animation part; '1' denotes the number of times all the frames must loop; '0' defines the pause (pause can be set at a maximum of 10); and 'part0' is the folder from which the frames for this instruction set are to be executed.
- ▶ In the third line, 'p' defines another animation part; '0' defines the loop where 0 means loop infinitely (until Android OS displays the home screen); '0' again defines no pause; and 'part1' is the folder from which the frames for this instruction set are to be executed.
- ▶ If you have more than two folders, you'll have to add instructions for each folder in the same way.

Step 5: Transferring your animation to your device

To transfer this animation file to your Android device, simply copy the 'bootanimation.zip' file to the SD card on your rooted Android device. You can use any file manager app that allows you read/write access to the internal system folders of the Android OS. You can use File Expert (free) or Root Explorer (paid). Now, copy this 'bootanimation.zip' from your SD card to the folder '/data/local/' in your phone's internal



The first step requires you to enter the path for the folders that contain your animation frames.



After entering the details for looping and frame rate, click 'Preview' to view your animation.

memory. Android accesses this directory to display the boot animation. Before copying the animation file to the internal memory, you can make a backup of the default boot animation on your device by copying the default 'bootanimation.zip' file to a backup folder on your SD card. Reboot your handset to check out the animation.

If you wish to preview your final



You can use Root Explorer to transfer the ZIP file to your device's internal memory.

IDEAS FOR BOOT ANIMATIONS

Custom boot animations aren't just for designers or professionals. Here are some tips to find or create boot animations.

- ▶ There are a variety of custom boot animations created and hosted by users and developers that you can freely download from websites such as 'www.androidforums.com', 'www.xda-developers.com', etc. These sites provide you with the 'bootanimation.zip' file ready for download so all you have to do is copy it to the correct location and you've got a new boot animation.
- ▶ You can also download any animated GIF file of your choice, extract the individual frames and create the boot animation as described above.

- ▶ You can create a boot animation that displays your favorite photos too. All you have to do is select some photos, resize and rename them appropriately and create the archived file as explained above. Be sure to reduce the frame rate (animation speed) in the description text file so that the photos get displayed for a longer period of time.
- ▶ You can rip some frames from your favorite movies or videos to make your boot animation. Use any video editing software to help extract the desired frames and then make your boot animation.
- ▶ You can have your phone flash your contact or personal information while booting. You can create frames with basic text (using MS Paint) to get a simple text animation.

animation before transferring the file to your smartphone, you can use a utility called 'Boot Animation Previewer' available from http://d01microapps.elementfx.com/Downloads/install_bootanimationpreviewer.exe. The program is fairly simple. In the first step, you will have to enter the individual folders which contain your animation frames (part1, part2, etc.) and in the following step you, must specify the number of loops for each folder and the frame rate, just like you have done in the description file 'desc.txt'. Once you have entered all the correct data, click on 'Preview your boot animation' and a new window opens, playing your boot animation.

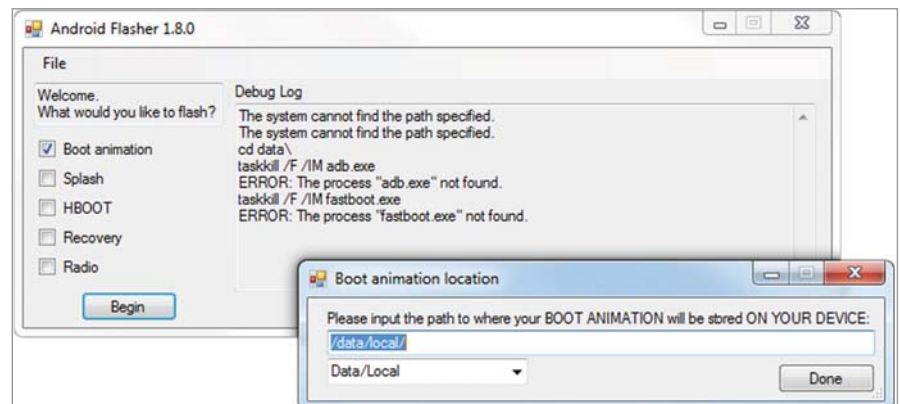
If you don't want to go through the entire procedure of porting the boot animation to the specified folders manually, you can instead make use

of a separate utility called Android Flasher to transfer the animation to your device automatically. The utility will do the needful and transfer the files automatically to the correct destination folder. Android Flasher transfers the file to the location and immediately displays the animation on your handset without requiring you to reboot the device.

NOTE: You will not be able to copy your boot animation file to the internal system memory of your Android handset if it is not rooted. Some stock and custom ROMs do not feature the path '/data/local/'. As a workaround, you can either create the folder, or you can try copying the boot animation file to the '/system/media/' folder. Default Android operating systems use either of these two paths for the boot animation. 📌

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With Android Flasher, select the 'Boot Animation' check box and specify the location to copy your archived file to preview your animation without having to reboot your device.

Pause Live TV With a Standard Set-top Box



You can pause, record and play live TV with a standard satellite or CAS TV set-top box using a DVR. We show you how.

BY FRANCIS D'SA

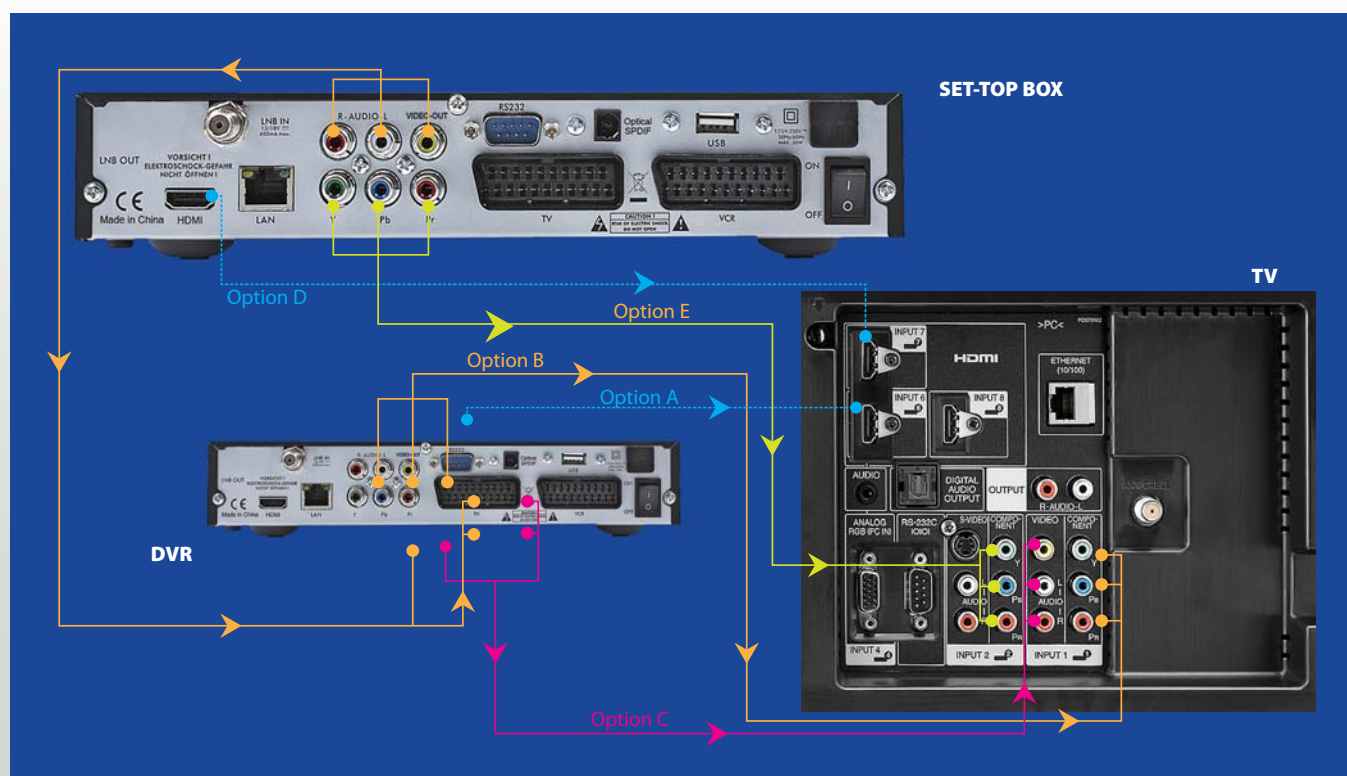
New set-top boxes that can record, pause and play live TV broadcasts are flooding the market, but many of us are stuck with older set-top boxes that can just receive satellite TV signals and display them on your TV. In order to record and pause live TV broadcast signals, you'd have to upgrade your older set-top box to a newer one with the facility to record and pause live TV. These set-top boxes are available only with the satellite TV broadcast companies such as Tata Sky, Dish TV, Airtel, Reliance Big TV, etc. The older

set-top box won't fetch you anything, and the newer one can set you back by Rs 5,000 or more. These set-top boxes have built-in hard drives (160 GB or 250 GB SATA hard drives), which can record up to 200 hours of television videos and pause up to 30 minutes of live TV.

The drawback of these recording-capable set-top boxes is that you can only record them and watch them on that particular set-top box. Neither can you transfer these recorded videos to any other media player, nor can you burn them on a DVD and store them. So what if you want to record a good

classic movie on HBO, a documentary on Discovery Science, or an animated series on the Cartoon Network? Why not think of another option to do the job and do it even better?

Here we will show you how you can pause and record live TV broadcasts using your existing set-top box, be it from a well-known satellite TV service provider, free-to-air Doordarshan STB, or your local cable operator's CAS STB. Well, you do have the option to install a TV tuner card on a PC or a laptop and get the same environment, but you would be restricted in certain ways i.e.





dedicating a computer for TV viewing and wasting unnecessary electricity by using the computer. For this workshop, we used a DVR from Ellion Digital (HMR-350H), but you could use any similar DVR for your setup. The HMR-350H is an HD multimedia player, which can house a desktop SATA hard drive of up to 1 TB capacity and can play music, videos and photos in addition to recording videos from an external source. This one can only record standard definition videos (576p) via the composite video input. There are no video recorders presently that can record in full 1080p or 1080i using the HDMI interface for general use.

So basically, the method involves a few connections that criss-cross between the set-top box, the DVR and the television set. Once you have the connections fixed, you can enjoy the pleasure of pausing and recording live

television broadcasts, and then viewing them at your leisure. A simple upgrade of the firmware for the HMR-350H will give it the ability to schedule

recordings, so you can even record videos when you're not at home and never miss a single episode of your favorite show. One drawback, of course, is that you'll have to keep the set-top box switched on and the DVR on standby mode whenever you have a scheduled recording setup. Also, while other set-top boxes with recording features have the option of recording from one channel while you are watching another, you cannot do this here because there is only one tuner on a standard set-top box. If you want that feature too, you can use another set-top box and connect it accordingly.

Take a good look at the wiring diagram given in this article and set your connections accordingly. There are options given in the diagram that enable you to watch TV without recording too. These are as follows:

OPTION A: HDMI from DVR to TV. This

will output the signals from your DVR to the TV in full HD. You can watch, record and pause TV and playback your stored videos and music from the DVR's internal storage without making any connection changes.

OPTION B: Component video from DVR to TV. Same as Option A for TVs and monitors that do not feature the HDMI port.

OPTION C: Composite video from DVR to TV. Same as Option B for TVs that do not feature component or HDMI inputs.

OPTION D: HDMI from set-top box to TV. To switch directly from DVR to TV in case you don't want to record any programs. You can switch off the DVR completely.

OPTION E: Same as Option D with component video connections

NOTE: The availability of a DVR similar to the one used here is quite difficult in India as Indian law does not permit recording of television broadcasts due to piracy concerns. Though TV tuners can't record TV broadcasts, you can still record videos. Piracy, rebroadcast, distribution and other forms of video distribution/sale is strictly against the law 🇮🇳

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Sachin Pandit

Tips & Tricks

AUGUST 2011

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WINDOWS

1 Windows Vista, 7 Speed up a netbook or an old notebook

When travelling, you are working with an inefficient notebook/netbook under Vista or Windows 7. It boots up very laboriously and slowly and the operating speed is also painfully slow.

CHIP TIP The performance of a computer mainly depends on its working memory (RAM). If it is 1 GB or less, then clearing is a frequent burden on the hard disk which can slow mobile devices down considerably. From Vista onwards, there is a method called ReadyBoost which is improved in Windows 7 to provide additional flash memory as RAM supplement for the system. You can enable it with a USB pen drive or even with a fast SD card.

Here, the additional memory should be 2x or 4x the RAM capacity. Moreover, the reading and writing speed must fulfil the specified minimum requirements so as to ensure proper functioning. Only then can considerable acceleration be achieved. An SDHC card with 4 GB memory and at least a 'Class 6' rating is practical in most cases. This shows that the card attains a writing speed of at least 6 MB/sec.

Insert the card in a slot on the mobile computer and then click 'Accelerate

System' in the 'Autorun' dialog. Here, the card need not be empty but should have sufficient free memory space.

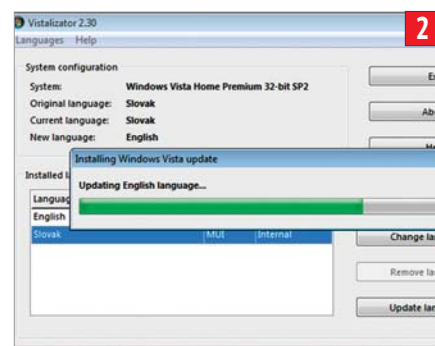
The 'Properties' dialog of the new drive then opens automatically to the 'Readyboost' tab. Activate the option 'Use this device' and define the reserved memory size with the slider. A minimum of 230 MB is required but it is better to have more. Confirm the settings with 'Apply' and 'OK'.

The drive can also be used normally with any remaining space. The reserved memory is present in the file 'ReadyBoost.sfcache' which you cannot delete from this computer during operation. The file is deleted after the drive is properly ejected and is automatically created on the original computer on connecting again. Disable ReadyBoost in the same dialog for if you subsequently need to release the occupied space.

You must try what the acceleration does for your system and which setting is optimal. But if you surf with many tabs open, you will mark a noticeable improvement. SD cards are extremely price-worthy nowadays as a result of which this is absolutely worth a try.

2 Windows Vista, 7 Change the language of the user interface quickly and easily

You have read that there are additional language packs available for the Business and Ultimate versions for adapting the user interface. You would like to know whether they will work for you and how.



Download Vistalizer, select the type of language pack, then select the language required and install.

CHIP TIP If for instance you have a visitor from France, you can quickly switch to French Windows. With the free utility Vistalizer, this is possible on all versions if you install the language pack which you have received as free download from Microsoft.

You can find Vistalizer at its website www.froggie.sk. Start the tool without any installation. Click 'Help' in order to search for language packs. In the following dialog, first select the type of language pack depending on whether you are using Vista or

Windows 7 and whether you are using the 32-bit or 64-bit version. You must usually use MUI packets (Multilingual User Interface) since LIP packets (Language Interface Pack) usually require an English version of Windows as the base for Vista. Click the suitable category. Then search for the required language in the list and follow the link for direct download from Microsoft.

Save the approx 200 MB pack on the hard disk. Now click 'Add languages', navigate to the downloaded EXE file and 'Open' it. Confirm the message about the express mode with 'OK'. However, do not change the setting to 'Internal' since this installation is possible on a system only once. Click 'Install language' and wait for the process to finish. Then confirm the change to the language that you just installed with 'Yes'. Close all the other open applications first. Then click 'Exit' in the Vistalizer and confirm the security tip to start the system with the new language settings.

3 Windows Vista, 7 Avoid warnings when accessing a network drive

If you right click on a ZIP folder in a linked network drive, you get a warning message from Windows or Internet Explorer.



In the 'Security' tab select the 'Automatically detect intranet network' option.

CHIP TIP Windows has not identified your local network correctly and considers it to be an Internet access to a potentially harmful file in which case the warning is justified. The relevant adaptation of common Intranet settings will solve this problem.

Go to the control panel and click 'Network and Internet Connections' and then 'Internet Options'. Go to the

'Security' tab. In the area for selecting a zone, click the 'Local intranet' icon and then click 'Sites' below it. There, first activate the 'Automatically detect intranet network' option. Then click 'Advanced'. Here, define the other computer from your local network as a member of the intranet zone. Since websites have to be entered here, use the format 'file://Computer name'.

NOTE: If you do not know the correct computer name, then click 'System and Security' on the other computer in the control panel or 'System and Maintenance' under Vista and then on 'System'. The searched computer name is displayed in the dialog below.

Confirm the entered name by clicking 'Add' on the first computer. Then close the open dialogs. You have thus included the second computer in the 'Intranet' zone without changing the relevant security settings.

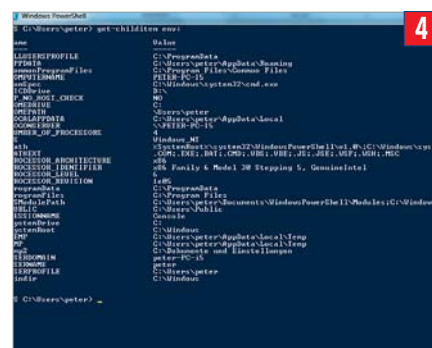
NOTE: If you need to allocate more computers or the process does not work, then you can enable all local pages and network paths in general. For this, once again go to 'Local Intranet' in the 'Internet Options' and click 'Sites'. Disable the option 'Automatically detect intranet network' and activate the following three options instead. Confirm the settings with 'OK'. In case of this option, note that all network paths will be classified as reliable, which could prove to be a security risk.

4 Windows Vista, 7 Use environment variables in PowerShell

You want to access common system variables such as '%appdata%' or '%windir%' just like in Explorer for personalized scripts created with Windows PowerShell.

CHIP TIP In PowerShell, you can easily access all system variables and use them in scripts. The scripts thus become more independent from the actual installation and can be transferred to another computer easily. Moreover, you can also request and use particular system information such as processor specifications.

The environment variables are present in the 'Env:' section of PowerShell. You will thus get a complete list of all the



PowerShell allows you to access common system variables and use them in scripts.

existing system variables with their respective values with the command **get-childitem env:**. Individual values out of these can be referred to in the form '\$env:windir' so that access via the prefixed drive specification is possible even from other locations.

You can get to know the methods and properties available for such an object with the command **get-childitem env: | get-member**. However to list the actual properties of a particular entry, use the command '**get-item env:windir | format-list -property***'. This command loads the 'windir' variable as object and transfers it to the command after the pipe icon for list release of all properties.

Use the command **let 'rename-item'** in the form **rename-item env:tmp -newname tmp2** to rename an environment variable. You can also easily change the content with the help of 'Set-item' and the parameter '-value'. For example, redefine the temporary folder with 'set-item env:TMP -value 'C:\Daten\Temp''. The functions can thus be combined. Read out the path variable in the system and add it to the folder 'C:\Test' using 'set-item env:path -value (get-content env:path+';C:\Test)'.

ATTENTION: Changes to the environment variables are applicable only for the current session. Permanent settings need to be configured in the profile of PowerShell or in the system. However you can still change or rename the pre-defined system variables if you know the exact effect of your action.

5 Windows XP, Vista, 7 Close all programs at once

You always need to close all open applications when installing new

software or if you want to shut the computer down. And you want this to happen quickly!

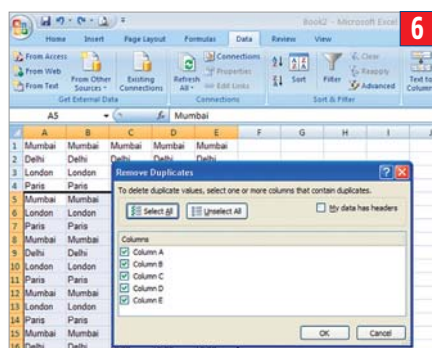
CHIP TIP The free program Close All Windows saves you the trouble of closing each program individually. The small English tool is available at www.ntwind.com. Unzip the ZIP folder and copy the 'CloseAll.exe' file to the desired location. Installation is not required. It is practical to add the program file to the task bar of Windows 7 so that you can access it at all times. The quick launch bar is recommended in case of earlier versions of Windows.

In future, one click on the icon will be sufficient to close all the open programs properly. In addition to that, you will need to answer all the dialogs with queries regarding the unsaved documents, which would mean just a few more clicks. No data will be lost. There is also an option of eliminating Individual programs from this command. You can exclude something like 'firefox.exe' so that an important browser session is not closed by mistake.

APPLICATIONS

6 Excel 2007, 2010 Remove duplicates quickly and easily

You want to remove duplicate entries from a large table and are looking for a quick and easy solution without any filters or complicated formula.



Microsoft Excel will detect a duplicate entry with this setting.

CHIP TIP Use the mouse and select the cell area from which you want to remove duplicate entries. Then click the 'Data' tab and then the 'Remove duplicate' button in the multi-function tool bar.

QUICK TIPS

Move to next misspelling

In Word 2010, use ALT+F7 to move to the next misspelling when editing the document.

Bring up visual basic editor

In PowerPoint use ALT+F11 to bring up visual basic editor.

Minimize open windows

Click the Windows Logo+D to minimize all the open windows and display the desktop.

Quit current program

Use ALT+F4 to quit a current program.

Display blocked external content

In Outlook 2007, to display blocked external content in a message use [Ctrl]+[Shift]+I.

Move between Excel worksheets

To move between Excel worksheet in the same Excel document use CTRL+Page up or CTRL+Page down.

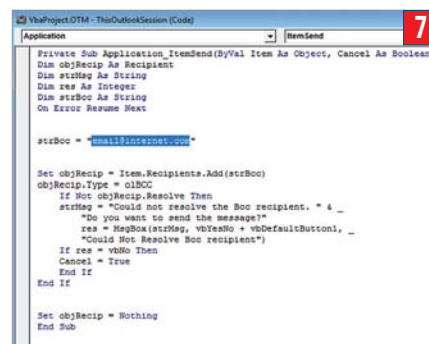
In the following dialog, you can define the columns of the area to be included in the comparison of individual rows. All cells of the two rows should thus not display the same content due to which the rows become duplicates of each other. In the 'Columns' field, remove the checkmark in front of the columns which you want to ignore during the comparison and then click 'OK'.

NOTE: If you do not include all columns in the comparison (when there are obvious differences between the individual rows), Excel always retains the first (the topmost) row out of the rows that have been identified as duplicate. This is important when the previously excluded cells are required later.

7 Outlook 2007, 2010 Send a copy of your outgoing e-mails automatically

You want to mark a BCC of all the emails, which you send, to a particular email address without installing a special add-in or a tool for it.

CHIP TIP You can make this wish come true with VBA programming. For this, open Outlook and press [Alt]+[F11] to start the editor for Microsoft Visual Basic for Application (VBA). Enable the view of VBA modules in a tree structure in the editor via 'View → Project Explorer'.



Outlook sends copies of all outgoing emails to a particular mail address per macro.

Then in this structure, click the small plus symbols in front of 'Project1' and 'Microsoft Outlook Project' and double click 'ThisOutlookSession'.

In the code editor window, choose 'Application' in the drop-down menu on the top-left. In the drop-down menu on the top-right choose 'ItemSend'. Then type the following VBA program in the editor after 'Private Sub Application_ItemSend(ByVal Item As Object, Cancel As Boolean)' and before 'End Sub'. Replace email@internet.com there with the desired mail address to which Outlook should send BCCs of the sent message automatically. After the input, save your program with [Ctrl]+[S] and close the editor with 'File → Close and Return to Microsoft Outlook'.

Note that your security settings may deactivate the macro when you start Outlook. In such a case, either change the settings accordingly or mark your macro.

8 Internet Explorer 9 Activate menu bars and tool bars as you want

The functioning of the new Internet Explorer 9 seems to be decent even without menu and tool bars. But you still wish to have some of those bars and want to activate them.

CHIP TIP With its minimalist interface, Internet Explorer is following in the foot steps of Google Chrome. This display takes a little getting-used-to but proves to be absolutely advantageous once that is done since it leaves so much more space for the website without changing the functioning too much. But anyone who does not want to do without the usual bars will keep bringing that up again and again. This however cannot



Activate additional control and information bars in Internet Explorer 9 if and when required.

be done via the options in the setting dialog. Right click a free spot of the title bar. Then activate the 'Menu bar' or the 'Status bar' in the context menu. You can also enable a 'Command bar' in Windows Vista as well as the 'Favourite bar' from here.

What is a little confusing is that the tabs are arranged near the address field. Although this saves space, it can at times lead to confusion between the tab and the address field and cannot display a lot of tabs simultaneously. If you want to see the tabs and the address fields separately, right click on a free space of the title bar and select the context command 'Show tabs in a separate row'.

NOTE: If you opt for this compact user interface, you can always access the menu bar with [Alt].

9 Firefox 4

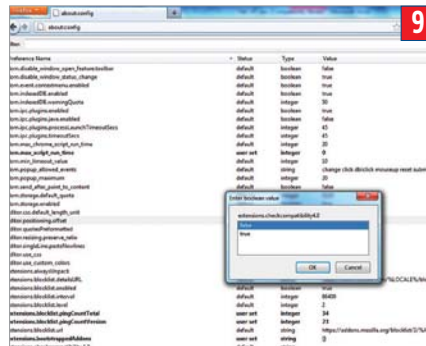
Use older add-ons in the new Firefox

When switching to version 4 of Firefox, you lose several add-ons that you have been using so far. You want to be able to use at least a few important add-ons immediately in Firefox 4.

CHIP TIP

In version 4, many add-ons are disabled by default because their compatibility has not been tested and released for version 4. Although suitable updates are offered for many plug-ins, there are other add-ons that are functional with Firefox 4 in several cases. In order to be able to see these, you must disable the compatibility check.

This can be done with the help of an advanced configuration setting. For this, type 'about:config' in the address bar and press Enter. Confirm the displayed warning by clicking 'I'll be careful, I



Even old add-ons can be installed without the compatibility check.

promise!'. Now right click in the window and select the context command 'New → Boolean'. Then enter the term 'extensions.checkcompatibility4.0' and press Enter. In the next dialog, select the setting 'false' and click 'OK'. Then close the tab with the configuration. In future, all the old add-ons can now be formally installed. The specified setting does not ensure compatibility but bypasses the compatibility check. It is thus possible that the individual unchecked add-ons do not function correctly with Firefox 4. In such a case, you have no option but to wait for an update by the provider.

NOTE: The exact term of the additional entry depends on the Firefox version used which can be seen at the end of the name. The specified value refers to the end version. You then alternatively or additionally need the entry 'extensions.checkcompatibility4.0b' for the Beta version to which you assign the value 'false'.

10 Thunderbird

Display the country of origin of e-mails symbolically

You want to know where the numerous spam and advertisement emails that you receive come from, or you want to check the country of origin of a new e-mail contact.

CHIP TIP

With the free Country Lookup add-on, you can find out the country of origin of a message immediately with the help of an allocated flag icon. This enables a quick check of whether a message has actually come from Germany or from your known contact in Austria, France or the USA. If on the other

hand the mail of your supposed friend has come from an unknown country, you should be careful and sceptical when viewing the content.

You can download Country Lookup free of cost from addons.mozilla.org/en-US/thunderbird/addon/country-lookup/.

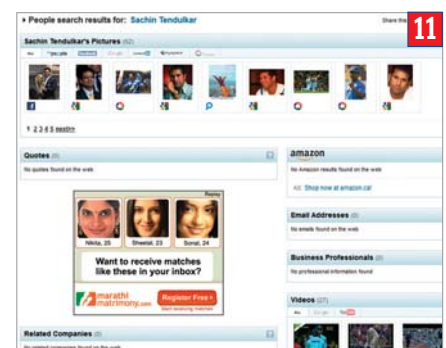
First download the XPI file. Then go to 'Tools → Add-ons' in Thunderbird and click the 'Install' button. Now navigate to the new XPI file and 'Open' it. Click 'Install Now' to provide the necessary permission. Then 'Restart Thunderbird'.

The add-on does not need any additional configuration. In future, you will automatically see the respective country flag in the header of a message and in the preview. If you point the mouse cursor to the flag, the displayed info text will also show the name of the city along with the name of the country in which the last hub point lies in some cases.

11 Internet

Search for information about someone on the Internet

You are searching for an old school friend and want to know the options that the you have on the Internet. Your first attempt with Google has not been successful.



You'll find information on a person at 123people, but make sure you check its attribution.

CHIP TIP

In addition to the general search engines like Google, there are other special person search engines like 123people or Yasni. For research, go to the website 123people.com. Then enter the complete name in the search field, change the country if required and click 'Find'.

The service works with a realtime query of various sources thanks to which the search does not take more than a blink. You will then get several columns

full of results which are thematically grouped as per telephone directories, e-mail addresses, domains and web links as well as other information like photos, blogs, documents and social network.

You can always call up more results in each of the columns. Every entry will be preceded with an icon for the source of the information so that you can switch to the relevant website quickly. However do not rely blindly on the results. There is no clear attribution. There are often cases of many persons with the same name due to which it is unclear which blog or which photo belongs to which person. Sometimes random photos from an Internet site are displayed along with the name. But if you are searching for an old school friend, you will obviously know which result is applicable.

NOTE: Try a search request with your own name once. This will help you know what others can find about you on the net or want to know about you. Moreover you can review the obtained results better. If you want to delete any unwanted personal data, you will need to go to the original website since 123people only carries out searches and does not archive any data.

12 Google Chrome Cancel hanging tabs or tools individually.

Individual scripts or websites are sometimes defective and hang, or an add-on in the browser starts giving problems. Restarting the browser is what you usually need to do.

CHIP TIP Chrome is the first browser to introduce a consistent separation of individual tabs at the process level. You can check that when you start the



Google Chrome offers an option to close individual tabs if they hang or crash.

task manager with many tabs open in the browser. Press the key combination [Ctrl]+[Shift]+[Esc] and switch to the 'Processes' tab. For instance, if there are four tabs open, you will see the 'chrome.exe' process displayed at least five times. You can end the processes here itself but you can't see which process entry belongs to which tab.

It is this information that the internal task manager of Chrome provides. You can call it up from the Chrome program window either by pressing the key combination [Shift]+[Esc] or by right clicking a free spot above the address bar and selecting the context command 'Task Manager'. The following dialog shows the tab or plug-in to which the process is correlated. Select the desired entry and click 'End process'.

You can call up detailed information about memory usage of individual processes via the link 'Statistics for nerds' and thus identify which websites are low on memory. Moreover, the overview also shows the memory requirements of all other currently open browsers. You can thus end a hanging Flash Player without problems or close a tab with defective websites without affecting the remaining browsers. The closed page displays a message in the tab, thus enabling immediate reloading of the page.

13 Browser Link websites to branch listings in the task bar specifically.

Branch listings of browsers show frequently used elements as well as the last used elements. You can use a trick to specifically anchor certain websites in order to request them quickly.

CHIP TIP The elements shown by Windows in the lists depend on the browser used. What is common for all the surf programs is that the elements can be permanently linked. For this, open the branch listing by right clicking the relevant icon in the task bar. Then right click the desired element and select the context command 'Attach to this list'.

You can also click the displayed pin icon to the right of the entry.

This can also be easily done via Drag and Drop. If you want to link an open website, then click in the address bar of the browser and drag the preceding



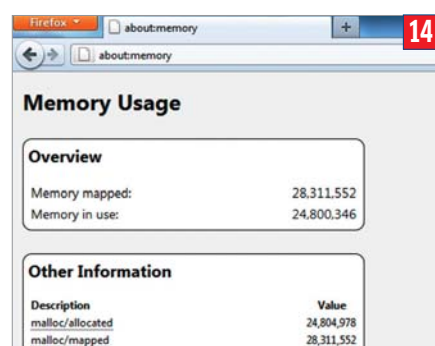
In order to surf frequently used websites directly, you can link them actively to a branch listing.

favicon and drag it into the task bar with the left mouse button on the browser icon pressed. Here, allocation to another browser is also possible. If you drag a favicon from Firefox with the mouse button pressed on the Internet Explorer icon, then the relevant website is immediately linked. Only links from Opera cannot be dragged in this manner. A link that is directly dragged to a free spot in the task bar is automatically linked to the default browser.

14 Firefox Test the memory load of the browser with a direct command.

You often have a feeling that your system becomes slower when you open Firefox with few important tabs in the background. You want to get to the bottom of it.

CHIP TIP Type 'about:memory' in the address bar and press Enter in order to get information about how much memory Firefox has reserved and how much memory is the browser actually using at the moment. You can get cache information on the screen with the

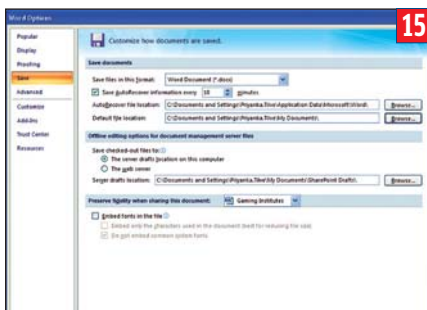


Get information about the memory usage of Firefox with a simple command in the address bar.

command **about:cache**. You will come to know where Firefox buffers its data (RAM, hard disk and network), how memory space is utilised on the whole and how much memory is still unused. If you want to know this in detail, you need to also know which entries are saved. They are listed as links on request (click the link).

15 Word 2003, 2007, 2010 Change the default Save Location.

You can change the default location where the files are saved in Word 2007, 2010.



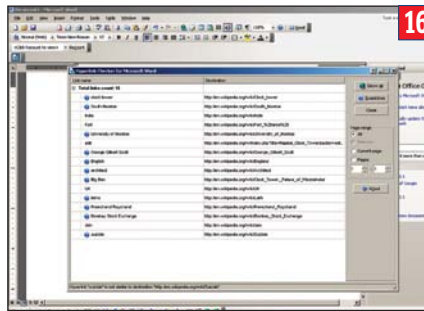
Under Word Options you will see the option that allows you to set the default location.

CHIP TIP By default Word saves the files in My Documents folder. You can easily change the location where you want Word to save your files. In Word 2003, go to Tools tab, here select Options. Then select the File Locations Tab, under here you will see the various options. From here you can change the default location, by specifying a new path. In Word 2007, click on the Office button and then select Word Options. Here select Save, which will show you several options. Now here you can change the default file location. In 2010, select the File tab and then go to Options to change the default file location.

16 Word 2003, 2007 Hyperlink Manager for Word

Manage the hyperlinks in your Word document and check for accuracy.

CHIP TIP If you are writing a report, which has a lot of hyperlinks then checking them for accuracy can be quite a task. Instead of manually checking each hyperlink, you can download the Hyperlink Checker for Word. It can be downloaded from <http://www.ablebits.com>.



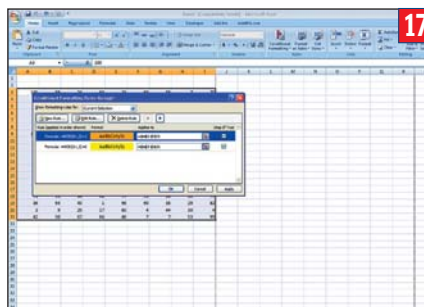
Hyperlink Checker will check all the links in the document in one go.

[com/word-hyperlink-manager-addins/index.php](http://www.ablebits.com/word-hyperlink-manager-addins/index.php). Once installed start Word 2003, right click on the toolbar and check on the Ablebits.com toolbar. In the toolbar click on the Hyperlink Checker button, it will instantly check the documents for the hyperlinks and display the result. Although it doesn't check if the link is active, it basically connects the linked word to the website or document name. This way you can make sure that you have linked the right word with the right website without manually going through every hyperlink in your document.

17 Excel 2007 Value-based shading

Differentiate between data without sorting it with the help of Conditional Formatting.

CHIP TIP If you need to differentiate between data with out sorting it, you can do it with ease in Excel 2007. Using the Conditional Formatting rules in Excel 2007, you can easily segregate even numbers from the odd numbers in your data. First select the cells with the data values, then go to the 'Home tab'. Here under the 'Styles' group, select 'Conditional Formatting'. In the drop-down list click 'Manage Rules' and then

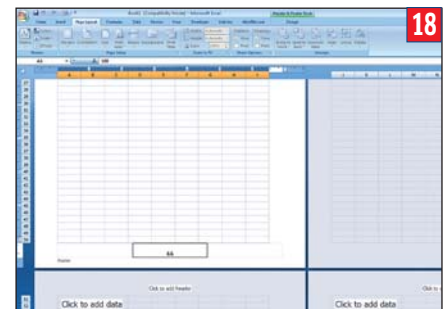


Using conditional formatting, you can segregate even numbers from odd numbers.

select 'New Rule'. You will be asked to 'Select a Rule Type', here choose the 'Use a Formula to Determine Which Cells to Format' option. In the 'Format Values Where This Formula Is True' textbox, enter the formula as `"=MOD(A1,2)=1"` and select 'Format'. Then click on the 'Fill' tab in the 'Format' dialog box and select the color yellow, press 'Ok' to continue. Then go back to the 'Conditional Formatting Rules Manager' and select 'New Rule'. In the 'Format Values Where This Formula Is True' textbox, enter the formula as `"=MOD(A1,2)=0"` and select 'Format'. Then click on the 'Fill' tab in the 'Format' dialog box and select the color orange, press 'Ok' to continue. Click 'OK' to apply the conditional formatting to the selected cells.

18 Excel 2007 Display '&' in the footer

The ampersand sign (&) is a special symbol which is not printed by default.



You can print the ampersand sign in the footer in a few easy steps.

CHIP TIP The ampersand sign (&) is a special symbol which is not printed by default. If you have ever tried to add an ampersand symbol in the footer, you might have also noticed that the ampersand sign disappears on print. If you need to print this symbol, you can do so with very little hassles. Open the workbook which requires to be printed, then on the status bar, click the 'Page Layout' option. Now place your cursor on any one of the three sections where you need to enter the "&" symbol. Now press [Shift] + [7] combination twice from your alphanumeric keypad. Notice the & sign appears twice (&&). Click outside the footer area, you will now notice the ampersand symbol in your footer.

- Compiled by Team CHIP
send your tips to tnt@chip.in

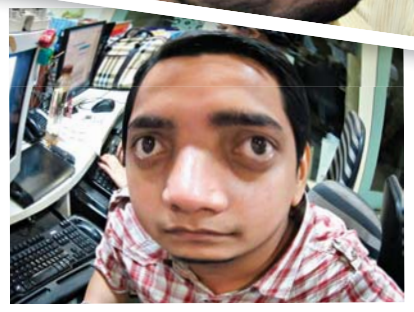
Just for Fun

You don't need to be a Photoshop guru to get these shots. The latest digital cameras have filters that make shooting fun. BY ANAND TULIANI

FISH
EYE



The fish eye effect produces a bulge at the center of the frame. When framed correctly, you can get wacky perspectives and even make your friends look funny. These shots were taken with the Canon IXUS 115 HS.

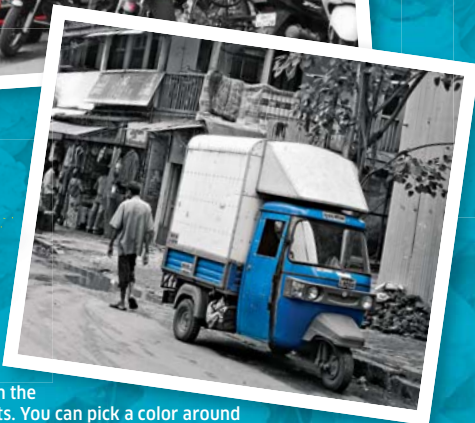


MACRO



Being able to shoot Macros from very close is a big advantage. The first one was shot with the Olympus VG-140 and the bug was shot with the Canon PowerShot G12.

SELECTIVE
COLOR



The Color Accent mode was used on the Canon SX 230 HS to take these shots. You can pick a color around you and only that color is highlighted, leaving the rest black and white.

PUNK



The Punk effect available on Olympus digital cameras looks very cool, but there needs to be good contrast to get desired results.

MINIATURE



The Miniature effect blurs the top and bottom portion of the frame and boosts saturation to give a toy land effect. It's a common feature of many models by Canon, Samsung and Olympus.

TOY CAMERA



The Toy Camera or Pin Hole Camera effect produces a vignette and dulls the colors. The photos look as if they have been shot with a retro film camera - very nostalgic.

SKETCH EFFECT



The Drawing effect, which is one of the Magic Art Filters in Olympus' digital cameras, yields an interesting sketch effect. But the ambient lighting has to be good.



SWEEP PANORAMA



This panorama of the Sun Temple in Modhera, Gujarat was shot with the Sony Alpha NEX-3 using Sweep Panorama mode. You just have to release the shutter and pan the camera horizontally or vertically. The camera intelligently aligns and stitches the panorama on-the-fly. 📷

- anand.tulliani@chip.in

Drive Electric!

With environmental concerns and rising fuel prices, is the REVAi a beacon of hope?

BY SHAYNE RANA



In these troubled times of rising carbon footprints that leave a stain on the environment and serious hikes in fuel prices, a car like Mahindra's REVA could be perceived as beacon of hope. This alternative fuel source i.e. electric car made it to our lab, in this case, the wild streets of Mumbai, and I was able to get a first hand impression of what a possible "future-car" could be like. Here's my take on the REVAi, the high-end model.

Design

I'll be blunt. I'm not a fan of the design. It's a little too "boxy" for me although it's quite comfortable inside for two people and two people only. The back set is just about useless for seating, even children, but does add a little boot space to the vehicle. The seats recline quite a bit providing a little 'snooze' space if you just want to park and relax for a bit. Since there's no gearbox, being an automatic car, there's plenty of leg room. It's also got quite a bit of head room in the cabin which is essential for those who happen to be in the 6-foot range.

It's cute-ish

The dash is a little too plastic-y and seems just a mite flimsy. Indicators for all purposes are neatly arranged but can get a little confusing if you haven't read the manual before jumping in. A simple dial system is designed for various driving modes and looks a bit like a dial on a cooking range. There's R for Reverse, N for Neutral, F for forward and B for boost. Don't think of this as some sort of Nitro-Boost feature like you see in the movies or games—this mode throws in about 40 percent more power, which is quite handy on open roads.

The air conditioner is about the noisiest thing in this otherwise super silent car. Its hum can be a bit distracting. It features a heater as well

and a de-fogger for the windshield and rear glass. This version of the REVA is equipped with a Stereo system from JVC that features a CD/MP3 Disc player and radio. Sadly, no USB option. The speakers are just not at par with the player so most times you'll hear a jarring sound at slightly higher volumes. Bass heavy tracks like most Hip-Hop music really didn't sound too good. A charging port for your mobile phone et al is also provided. Just above the glove compartment is a pull out cup holder

for two cups. Platicy dashboard but all relevant features accounted for

Now for the exteriors

Although the car seems a little flimsy it's designed to be quite a sturdy vehicle. Aside from the Steel space frame and side impact beams, the REVAi also features energy absorbing bumpers and ABS dent-proof body parts. We had to take their word for it as I was not about to drive this rather pricey car into anything or press the shell hard enough to try and dent it. The wiper is rather oddly positioned as it tends to wipe just the central part of the windshield leaving a large part of the bottom portion rather murky when driving in the rain. This tends to inhibit your bumper-to-bumper vision so your judgment will have to be spot on. The headlights although small do tend to provide easy viewing while driving at night.

Charging port

A charging cable is provided with the vehicle that goes into the little charging port on the left hand side of the car above the rear wheel. It's positioned in the same place you'd expect to find a fuel tank. I was, admittedly, a little afraid to try and charge the car after driving it in the rains, as the charging port was wet thanks to the absence of a cover. It's simply placed behind a spring loaded cap that isn't water tight. I tried it nevertheless and there was no problem. The company also promises to set up a charging post at your residence should you decide to buy the vehicle.

THE EXTERIORS



With all doors open, you can see how compact this little car really is.



The car's diminutive stature gives it a great turning radius!



THE INTERIORS

Clockwise from left: The electric engine at the REVAi's heart, the plasticky dashboard with its unconventional controls, the charging port in place of a regular fuel inlet, and the cramped interiors showing the largely useless back seat.

No room in the back

All in all, I have to say, while most women I asked, seemed to think the REVAi was cute, the guys thought it to be a bit unattractive, although the color of the exterior or the interiors was not the issue. I've seen a few other electric vehicles in places like Oslo, Norway, and have to admit those were far sleeker than the REVAi—what you would expect from Euro-designs.

Performance

Now to the nitty-gritties—the REVAi drives like a dream. It's smooth, peppery and goes from 0 to 40 in just about 7 and a half seconds which is not bad for a small car like this. In traffic it's got great pick up however the lack of power steering can make maneuverability a little tedious. On the plus side, a small car like this has a good turning radius making it easy to nip in and out of small spaces and take quick U-turns when you need to. Even with two people in the car, pushing her up to 65km/h was easy, but she pretty much caps off at that limit after which things tend to get a little shaky. In 'Boost' mode, I was able to get up to 70km/h before things started getting a little out of hand.

Fuel efficiency-wise, the REVAi is designed to offer you about 80km per full charge. Realistically, she delivered on this front in spades. Even with the AC on and music blaring we managed to squeeze 65km from the REVAi. That's not bad at all. It takes about 8 hours to charge fully when the battery is drained and can be hooked up to any 15 Amp (220V) socket. The vehicle uses a Power Pack of eight 6-Volt EV type lead acid batteries.

Thanks to the onboard computer controlled system, charging will stop as soon as you're at 100% power so as to avoid your power bill going up. What I was warned about was to avoid taking the car over flyovers as the incline would be responsible for heavy battery drain. There went my highway plans - it meant I

had to take the long way home. However, for the sake of putting it through its paces and to do due diligence to the test, I decide the flyovers were the way to go. It does reduce battery power quite a bit but not to the extent that you should avoid them altogether. Of course it's not a powerful vehicle so climbing isn't the speediest process.

Great turning radius

The onboard computer or Energy Management System (EMS) also signals you when you're running low on juice and immediately switches over to a more efficient mode of energy consumption. So if you're caught in traffic you'll be able to pull over to the nearest socket and juice her up. The Five Lakh Rupee question is, who's going to let you plug your car into their wall socket for an hour or so, so you can get back on your way? The best option is — think of it as a mobile phone that you can simply leave on charge while you're at work or at home.

Really stands out in a crowd

Overall handling was a breeze even without power steering. The REVAi managed corners quite well and was zippy enough to quickly get from point A to point B within a specific suburb. City driving though is a bit heavy even if you are comfortably sitting in a cool air conditioned car, mainly because of the steering issue. The REVAi also handled the bumps quite well thanks to the Macpherson's strut in the front coupled with coil spring at the rear to make up the shock absorbers. The regenerative braking system does make braking an

easy task. Either ways, it's not like this car can dish out any serious damage.

Sweet ride

Central locking with remote locking and unlocking via the provided security system keychain is also part of this high-end model's sales pitch. It even has an annoying beeper that indicates that the doors aren't closed properly, or that the hand break lever, which by the way was easier to pull in my Mahindra Two Door Jeep than this, was not released properly.

The Bottom Line

While I liked driving the REVAi and all the attention that came along with it, the price tag of Rs. 4,80,418 (Ex-Mumbai) freaked me out a bit. I'm all for green tech and yes, the technology is expensive, no doubt but as a proof of concept, the REVAi is a thought-provoking idea. As someone once told me, when you have a concept that's not of the conventional variety, one must accept all the little pitfalls that go with it, keeping in mind its true nature and use. And I couldn't agree more.

The price list, click to enlarge

The vehicle may have been around for over two years now, but it has evolved considerably since then and who knows what we can expect in the next-gen model. Perhaps they'll heed my cries and we could see options like power-steering, a better music system and maybe even a better design. I hope features like this make it past the drawing board. Go green, Go REVA! 🇮🇳

— shayne@tech2.com

PC Myths Debunked

Several myths exist about computers and security. We put some of the most intriguing ones to the test!

BY MARTIN JÄGER

Magnets can erase the data on hard drives

THE MYTH: Magnets often come with a note saying that magnetic fields may erase the data on hard drives. Many people therefore think that they will lose data if they keep a magnet near a computer or keep a hard disk on top of a loudspeaker.

THE TRUTH: Magnets used to be really lethal for data stored on floppy disks. But even powerful Neodymium magnets cannot really affect the data on hard disks. Such magnets are also integrated in the actuator that controls the read-write head inside the drive.

The stronger the magnets, the faster the head can move over the disk, to reduce access time. Modern-day Terabyte-sized drives consist of up to four platters that are coated with iron oxide or cobalt and each have capacities of up to 690 GB. This data is stored in small magnetized segments (bits) on the disk which can have two magnetization directions: 0 and 1. Since 2005, bits have been vertically aligned

with the disk. In order to read or write these bits, the head of the hard drive needs to move only 10 nanometers over the surface. To read data, the magnetization of bits induces different current strengths in the head owing to the giant magnetoresistance effect: 0 and 1. During the writing process, the head is the electromagnet which magnetizes the bits with an extremely strong field owing to the short distance.

Magnetic fields thus affect data—but why does this not happen with conventional magnets? The reason disks are so strongly magnetized is that only exceptionally strong fields greater than 0.5 Tesla can change the bits. The field strength reduces to a fraction after only a few millimeters. Therefore even Neodymium magnets that are installed in the hard disk will be too weak to change or erase any data from outside the drive. However, keep one thing in mind: If you bring a magnet near a hard disk when it is in operation, the magnet may deflect the read-write head or cause it to press against the platter.

In this case, it may cause errors while writing or cause physical damage and lead to data loss.

The RAM is emptied when a PC's power is switched off

THE MYTH: RAM is a short-lived memory medium, in which the computer stores running programs and opened files to access them quickly. If one switches off the computer then the RAM becomes empty and data in it is lost.

THE TRUTH: RAM consists of individual memory cells, which each represent one bit. Each of these cells again consists of a transistor and a capacitor, which either contains an electrical charge (bit-value 1) or not (bit-value 0). The transistor regulates access on this charge and is thus connected to two electrical lines, the word line and the bit line. During writing and reading processes, the CPU always activates the word line first, making the transistor permeable. While writing, the CPU transports information on the bit line. The charge of the capacitor then aligns

Comparison of magnetic fields



Magnetic field of earth (average): 0.00005 Tesla



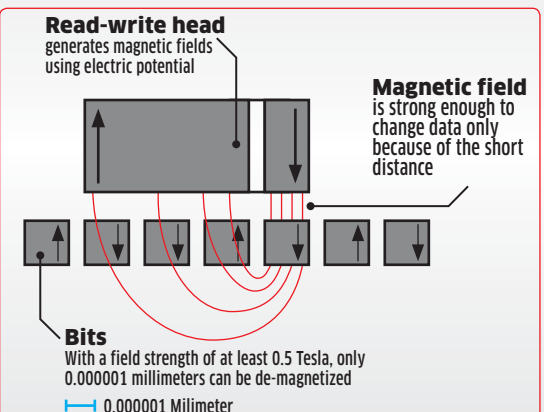
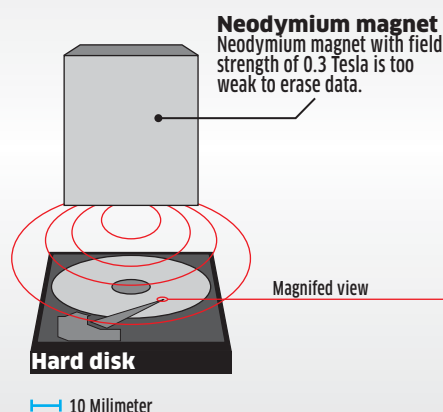
Refrigerator magnet: 0.05 Tesla



Magnetic resonance scanner: 1.5 Tesla

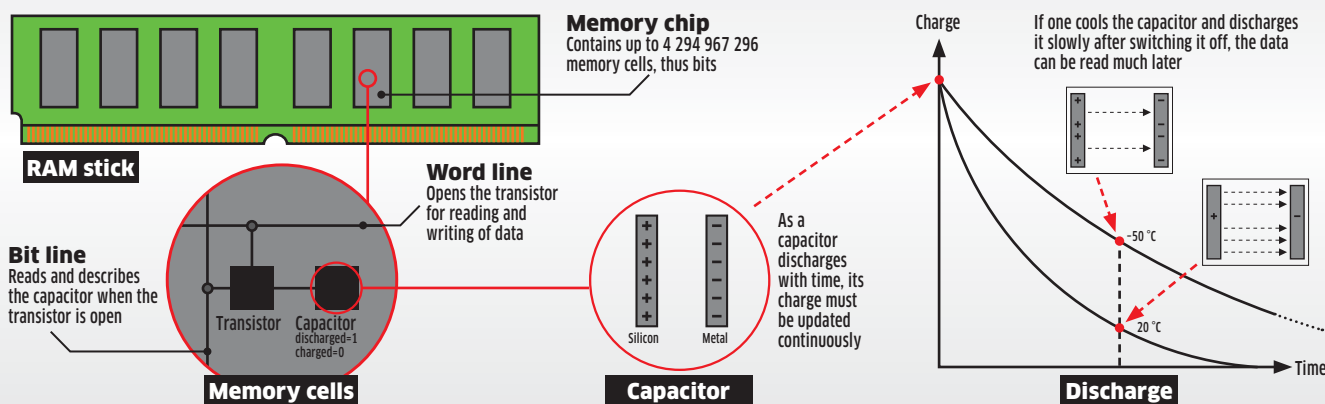
Magnetic fields in hard disks

Only an extremely high field strength, e.g. at the tip of the read-write head, can change the data on a hard disk. Normal magnets are too weak to do so.



Configuration and discharge of internal memory

RAM saves data (bits) as charges in capacitors. These survive if one reloads the capacitor quickly enough. However if one cools the RAM, then the charge survives for much longer.



with the potential of the bit line, which corresponds to the value 1 or 0. The capacitor deallocates its charge on the bit line during the writing process, whereby its potential rises or falls—depending on whether the capacitor is loaded or not. The CPU then interprets this as 1 or 0. As the line is discharged during reading, a fresh writing process follows, which recovers the cell contents (the “write-back” process). A loaded capacitor saves only around 100,000 electrons in each capacitor at that point. This minor charge quantity can be cleared very fast by current leakage in the surrounding material of the chip, if one cuts the supply of current. Thus the internal memory is updated every 15 microseconds—ie

several thousand times per second—to prevent this (“refresh”). The memory is not empty in milliseconds, as few cells discharge faster and others discharge slower, depending on the design. Most of the bits can in fact survive at room temperature for at least two seconds, but if one artificially cools down the memory chips to minus 50 °C, then the charges remain for much longer. Resistance is increased in the semiconductor material of the memory chips at this temperature. That prevents fast discharging by current leakage. In our field trial, a computer could wake up even from standby mode, after we had removed a cooled RAM stick and inserted it again after few seconds.

This should not affect security for

ordinary users in any way, but it is interesting that it is theoretically and practically possible.

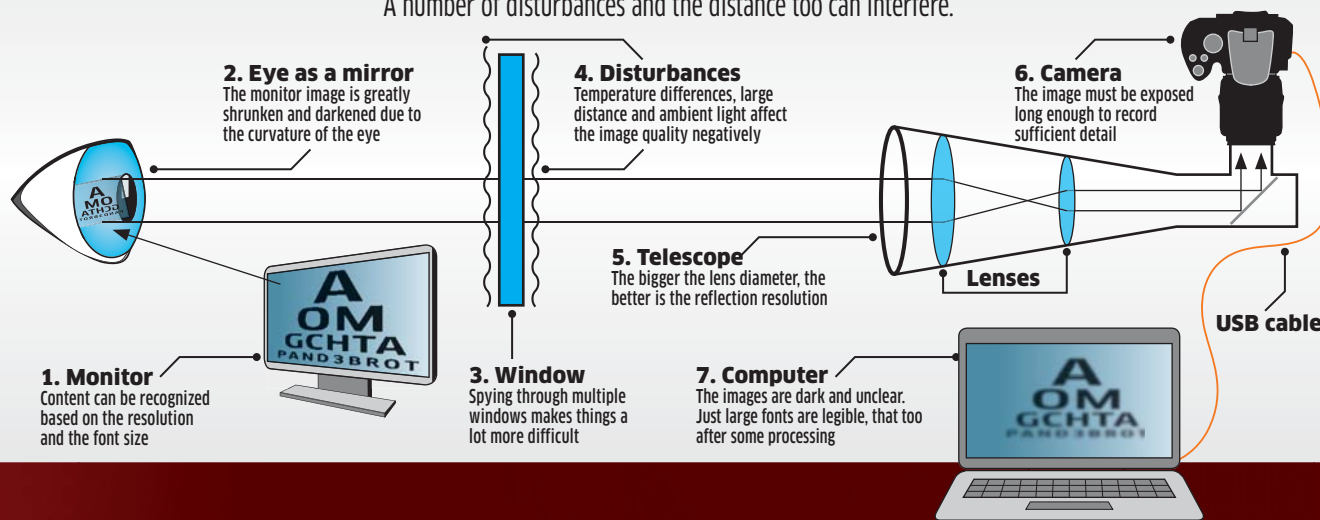
The image of your monitor can be read from its reflection in your eye

THE MYTH: When you read confidential information on a computer, a risk exists that someone can read the contents of your screen via a reflection in your eyes.

THE TRUTH: It is often said that the eye is a window into the soul, but what's certain is that our organ of sight is an excellent mirror to your surroundings. Anybody casting a deep glance can in fact recognize the environment, and certain parts of the contents of a PC monitor. Michael Bakes, professor at

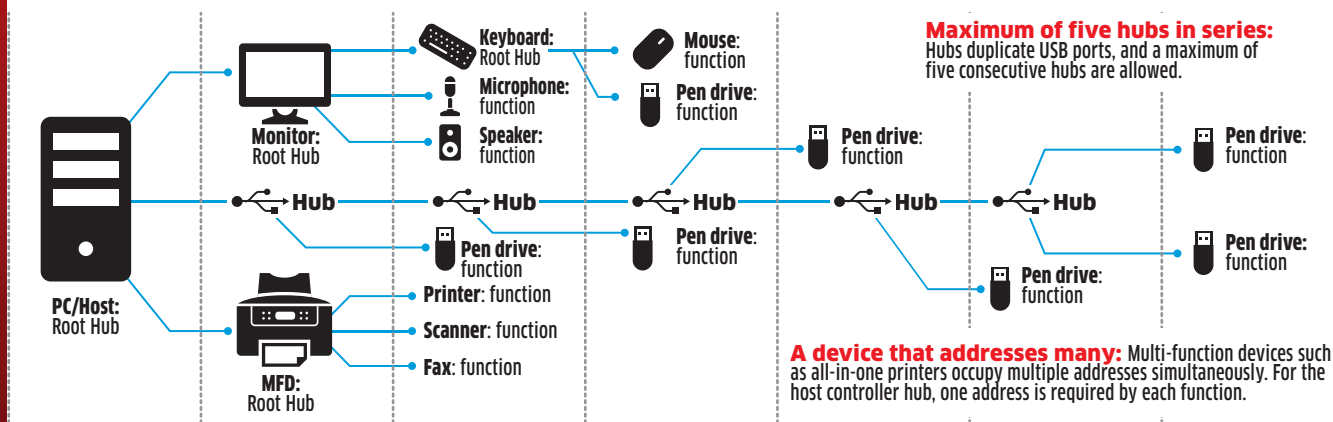
This is how the eye can reveal the reflection of a monitor

Those wanting to read secret information from the reflection in an eye have to well hide more than just a huge lens. A number of disturbances and the distance too can interfere.



This is how the USB hierarchy works

Host controller devices have 127 addresses available. But because each hub also requires its own address, one can never connect all 127 devices.



the University of Saarland, found this out. With the help of a commercially available telescope (focal length 1000mm) and a single lens reflex camera, he could read alphabets from a reflection on a human eye. We checked it out ourselves: an initial attempt with a 200 mm macro lens was quite promising. It was possible to detect reflected images and discern large logos in the photo. At a short distance of about 10cm from the eye, such a technique is naturally unsuitable for espionage. An 800mm telephoto lens—effectively 1200mm with the EOS 7D's sensor—gave us the results we needed. Even though setup is simple—the spy merely aims the telescope at the target's eye and photographs the enlarged image—too many factors create problems in practical use. The curvature of the eye shrinks and darkens the reflected image. Even with a big, high-performance telescope, a long exposure time is needed. The image immediately becomes unclear due to continuous eye movements—even with post-processing, only large image elements are recognizable. Besides, individual pixels become blurred together if the monitor resolution is too high, as specified by the Rayleigh criterion (which determines the maximum resolution of a telescope depending on the properties of the lens). Disturbances such as windows, air impurities or temperature differences further complicate the process. No wonder, our attempt at spying wasn't crowned with much success. Text in the reflection remained illegible.

Since there are a lot better reflecting surfaces in a typical office, a spy is not dependent on the eye of a victim as a mirror. For this purpose, spectacle lenses, teapots, bottles or window panes are in fact quite suitable! By placing these strategically and with enough post-processing, even small fonts can be read from an appropriate distance. Nonetheless, anxiety about being spied upon secretly is usually unnecessary: the huge lens required is hardly likely to go undetected.

A PC can accommodate up to 127 USB devices

THE MYTH: Your PC's manual says you can plug in up to 127 USB devices.

THE TRUTH: According to USB specifications, all devices are controlled by a host controller. This chip has a 7-bit wide address field, so it should be able to recognize 128 (27) addresses. Since the controller itself uses the address '0', a total of 127 addresses remain for other USB devices to be initialized.

The host controller, hubs, and actual USB peripherals are all fundamental parts of USB architecture. Controllers are designed for easy distribution, in order to let you connect USB devices such as hubs or other devices. The maximum number of devices that can be connected to a single host controller also depends on the hardware. Each device has at least one function, and each function is assigned an individual address. Thus, a USB pen drive or a hard drive only needs one address (for mass storage functions). On the other

hand devices like multifunction printers require several addresses: one each for print, scan, fax and possibly more for other built-in features. In order to connect 127 devices to a PC, you will also need a lot of hubs, each of which will claim one of the 127 addresses.

In addition to the available addresses, there is also a power consumption limit. Each device is allowed to pull between 100 mA and 500 mA at about 5 volts from the controller, which will cut off if it reaches its maximum capacity. The power consumption of 127 pen drives, for example, would total around 60 Watts, so any hub that wants to host so many will need to feed them from its own power supply. With common passive (bus-powered) 4-port hubs, you will not be able to string 127 devices together.

And last but not least, Windows also prefers things to be more straightforward: a maximum of 25 drive letters are available for new drives to be assigned. Over and above this, drives will remain unrecognized even in the Disk Manager. Under Windows 7, however, you can easily mount new disks as NTFS folders rather than as a logical drives. Of course we had to experiment on this ourselves! We were only able to connect 97 pen drives to our PC, using 15 hubs. The reason was that each of the hubs we used has two controllers, each of which receives an address. The hubs therefore consume 30 out of 127 addresses. So we did finally saturate our USB controller with 127 devices, but there is little or no practical benefit. ☐

— feedback@chip.in



PROCESSORS: Intel



NAME	PRICE (Rs)	CPU SOCKET	NUMBER OF CORES	CLOCK SPEED	MFG PROCESS	TDP
Intel Core i3-540	5,625	LGA 1156	2	3.06 GHz	32 nm	73 W
Intel Core 2 Duo E7500	5,750	LGA 775	2	2.93 GHz	45 nm	65 W
Intel Core i3-550	7,150	LGA 1156	2	3.20 GHz	32 nm	73 W
Intel Core i5-2300 (Sandy Bridge)	10,300	LGA 1155	4	2.8 GHz	32 nm	95 W
Intel Core i5-661	10,650	LGA 1156	2	3.33 GHz	32 nm	87 W
Intel Core i5-760	10,850	LGA 1156	4	2.80 GHz	45 nm	95 W
Intel Core i5-2400 (Sandy Bridge)	11,100	LGA 1155	4	3.10 GHz	32 nm	95 W
Intel Core i5-2500 (Sandy Bridge)	11,825	LGA 1155	4	3.30 GHz	32 nm	95 W
Intel Core i7-875K	15,250	LGA 1156	4	2.93 GHz	45 nm	95 W
Intel Core i7-950	16,300	LGA 1366	4	3.06 GHz	45 nm	130 W
Intel Core i7-2600 (Sandy Bridge)	16,500	LGA 1155	4	3.40 GHz	32 nm	95 W
Intel Core i7-960	17,000	LGA 1366	4	3.20 GHz	45 nm	130 W

PROCESSORS: AMD



NAME	PRICE (Rs)	CPU SOCKET	NUMBER OF CORES	CLOCK SPEED	MFG PROCESS	TDP
AMD Sempron 145	1,850	AM3	1	2.80 GHz	45 nm	45 W
AMD Athlon II X2 250	2,850	AM3	2	3.00 GHz	45 nm	65 W
AMD Athlon II X2 245	2,900	AM3	2	2.90 GHz	45 nm	65 W
AMD Athlon II X2 255	2,975	AM3	2	3.10 GHz	45 nm	65 W
AMD Phenom II X2 550 BE	4,450	AM3	2	3.10 GHz	45 nm	80 W
AMD Phenom II X2 555 BE	4,600	AM3	2	3.20 GHz	45 nm	80 W
AMD Athlon II X4 645	5,650	AM3	4	3.10 GHz	45 nm	95 W
AMD Phenom II X4 945	6,900	AM3	4	3.00 GHz	45 nm	95 W
AMD Phenom II X4 955 BE	7,050	AM3	4	3.20 GHz	45 nm	125 W
AMD Phenom II X6 1055T	9,000	AM3	6	2.80 GHz	45 nm	125 W
AMD Phenom II X6 1075T	10,075	AM3	6	3.00 GHz	45 nm	125 W
AMD Phenom II X6 1090T BE	12,100	AM3	6	3.20 GHz	45 nm	125 W

MOTHERBOARDS: AMD - IGP



NAME	PRICE (Rs)	CPU SOCKET	CHIPSET	MEMORY SUPPORT	D-SUB DVI HDMI	PCI X16 PCI SATA USB
ECS A740GM-M	1,900	AM2+	AMD 740G + AMD SB700	DDR2	✗ ✓ ✗	1 2 6 4
ECS A785GM-M3	2,900	AM2+	AMD 785G + AMD SB710	DDR2	✓ ✓ ✗	1 2 6 4
Asus M4A78LT-M	3,625	AM3	AMD 760G + AMD SB710	DDR3	✓ ✓ ✓	1 2 6 6
Biostar TA880GB+	4,200	AM3	AMD 880G + AMD SB710	DDR3	✓ ✓ ✓	1 2 6 7
ECS A885GM-A2	4,275	AM3	AMD 880G + AMD SB850	DDR3	✓ ✓ ✗	2 2 0 6
MSI 880GM-E41	4,375	AM3	AMD 880G + AMD SB710	DDR3	✓ ✗ ✓	1 1 6 10
Gigabyte 880GM-USB3L	4,625	AM3	AMD 880G + AMD SB710	DDR3	✓ ✓ ✓	1 1 4 4
Asus M4A88T-M LE	4,750	AM3	AMD 880G + AMD SB710	DDR3	✓ ✓ ✓	1 1 6 6
Gigabyte GA-880GM-USB3	4,800	AM3	AMD 880G + AMD SB710	DDR3	✓ ✓ ✓	1 2 5 12
Asus M4A88T-M	4,950	AM3	AMD 880G + AMD SB710	DDR3	✓ ✓ ✓	1 1 6 6
ECS A890GXM-A	7,425	AM3	AMD 890GX + AMD SB850	DDR3	✓ ✓ ✓	3 1 0 6
MSI 890GXM-G65	7,550	AM3	AMD 890GX + AMD SB850	DDR3	✓ ✓ ✓	1 1 5 4
Gigabyte GA-890GPA-UD3H	9,875	AM3	AMD 890GX + AMD SB850	DDR3	✓ ✓ ✓	2 2 8 14

NOTE: Street prices (incl. VAT) as on 10 July 2011.

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MOTHERBOARDS: AMD - Non-IGP

NAME	PRICE (RS)	CPU SOCKET	CHIPSET	MEMORY SUPPORT	PCIe X16 SLOTS	PCI SATA USB
Asus M4A87TD	5,700	AM3	AMD 870 + AMD SB850	DDR3	2	1 3 6 14
Asus M4A87TD EVO	6,800	AM3	AMD 870 + AMD SB850	DDR3	2	2 3 6 14
Gigabyte 890FXA-UD5	10,250	AM3	AMD 890FX + AMD SB850	DDR3	2	4 1 8 16



MOTHERBOARDS: Intel - IGP

NAME	PRICE (Rs)	CPU SOCKET	CHIPSET	MEMORY SUPPORT	D-SUB DVI HDMI	PCIe X16 PCI SATA USB
ECS G41T-M5	2,025	LGA 775	Intel G41 + ICH7	DDR2	✗ ✗ ✗	1 1 2 4
Asus P5G41C-M LX	2,775	LGA 775	Intel G41 + ICH7	DDR3	✗ ✗ ✗	1 2 4 8
Intel DG41WV	3,100	LGA 775	Intel G41 + ICH7	DDR3	✓ ✗ ✗	1 2 4 4
ECS H55H-CM	4,125	LGA 1156	Intel H55	DDR3	✓ ✓ ✓	1 1 6 6
Intel BOXDG43RK	4,650	LGA 775	Intel G43 + ICH10	DDR3	✓ ✗ ✗	1 2 4 12
Asus P7H55-M	4,800	LGA 1156	Intel H55	DDR3	✓ ✗ ✓	1 1 6 6
Intel BLKDH67CL	6,200	LGA 1155	Intel H67	DDR3	✓ ✓ ✓	1 3 3 6
Asus P8H67-M	7,750	LGA 1155	Intel H67	DDR3	✓ ✓ ✗	2 1 4 6
Asus P8H67-M PRO	8,150	LGA 1155	Intel H67	DDR3	✓ ✓ ✓	2 2 4 4
Gigabyte H67MA-UD2H	8,790	LGA 1155	Intel H67	DDR3	✓ ✓ ✓	1 0 3 4
Asus P8H67-M EVO	9,175	LGA 1155	Intel H67	DDR3	✓ ✓ ✓	2 1 4 4



MOTHERBOARDS: Intel - Non-IGP

NAME	PRICE (Rs)	CPU SOCKET	CHIPSET	MEMORY SUPPORT	PCIe X16 SLOTS	PCI SATA USB
ECS P55H-A	6,475	LGA 1156	Intel P55	DDR3	2	2 6 8
Intel BLKDP67BA	6,950	LGA 1155	Intel P67	DDR3	1	3 3 6
MSI P55A-G55	7,325	LGA 1156	Intel P55	DDR3	2	3 6 8
Asus P7P55D Pro	9,125	LGA 1156	Intel P55	DDR3	1	2 7 8
MSI P55A-GD65	10,025	LGA 1156	Intel P55	DDR3	2	2 2 5
MSI X58 Pro-E	10,975	LGA 1366	Intel X58 + ICH10R	DDR3	3	2 2 6
Gigabyte P67A-UD3R	11,000	LGA 1366	Intel P67	DDR3	2	2 6 14
Asus P8P67	11,675	LGA 1155	Intel P67	DDR3	2	3 4 6
Asus Sabertooth X58	11,850	LGA 1366	Intel X58 + ICH10R	DDR3	3	1 6 6
Intel DX58SO	13,200	LGA 1366	Intel X58 + ICH10R	DDR3	2	1 6 8
Asus P8P67 Pro	13,450	LGA 1155	Intel P67	DDR3	3	2 4 6
Intel BOXDX58SO2	14,500	LGA 1366	Intel X58 + ICH10R	DDR3	2	1 6 6
Asus Rampage III Gene	15,400	LGA 1366	Intel X58 + ICH10R	DDR3	2	1 6 7
MSI Big-Bang X-Power	18,675	LGA 1366	Intel X58 + ICH10R	DDR3	6	6 6 4
Gigabyte P67A-UD7	20,275	LGA 1155	Intel P67	DDR3	4	2 8 10

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GRAPHICS CARDS: ATI



NAME	PRICE (Rs)	RADEON GPU	DIRECT X	MEMORY TYPE	MEMORY BUS WIDTH	STREAM PROCESSORS	CORE MEMORY SPEED (MHz)
Asus EAH5450 SILENT/DI/1GD3	2,675	HD 5450	11.0	DDR3	1 GB 64-bit	80	650 MHz 800 MHz
Asus EAH5670/DI/1GD5	5,700	HD 5670	11.0	GDDR5	1 GB 128-bit	400	775 MHz 1000 MHz
Powercolor AX5750 1GBD5-H	6,250	HD 5750	11.0	GDDR5	1 GB 128-bit	720	700 MHz 1150 MHz
Sapphire HD5750 11164-00	6,350	HD 5750	11.0	GDDR5	1 GB 128-bit	720	700 MHz 1150 MHz
Powercolor AX5770 1GBD5-H	7,325	HD 5770	11.0	GDDR5	1 GB 128-bit	800	850 MHz 1200 MHz
XFX HD-577X-ZNFK	7,850	HD 5770	11.0	GDDR5	1 GB 128-bit	800	850 MHz 1200 MHz
Powercolor AX6850 1GBD5-DH	10,250	HD 6850	11.0	GDDR5	1 GB 256-bit	960	775 MHz 1000 MHz
MSI R6850-PM2D1GD5	10,725	HD 6850	11.0	GDDR5	1 GB 256-bit	960	775 MHz 1000 MHz
Asus EAH6850 DC/2DIS/1GD5	11,400	HD 6850	11.0	GDDR5	1 GB 256-bit	960	790 MHz 1000 MHz
XFX HD-685X-ZDFC	11,900	HD 6850	11.0	GDDR5	1 GB 256-bit	960	775 MHz 1000 MHz
Powercolor AX6870 1GBD5-2DH	13,650	HD 6870	11.0	GDDR5	1 GB 128-bit	1120	900 MHz 1050 MHz
XFX HD-687A-ZNFC	14,100	HD 6870	11.0	GDDR5	1 GB 256-bit	1120	900 MHz 1050 MHz
MSI R6950-2PM2D2GD5	16,125	HD 6950	11.0	GDDR5	2 GB 256-bit	1408	800 MHz 1250 MHz
Sapphire HD 6950	16,400	HD 6950	11.0	GDDR5	2 GB 256-bit	1408	800 MHz 1250 MHz
MSI R6970-2PM2D2GD5	21,275	HD 6970	11.0	GDDR5	2 GB 256-bit	1536	880 MHz 1375 MHz
Sapphire HD 6970	21,850	HD 6970	11.0	GDDR5	2 GB 256-bit	1536	880 MHz 1375 MHz

GRAPHICS CARDS: Nvidia



NAME	PRICE (Rs)	GEFORCE GPU	DIRECT X	MEMORY TYPE	MEMORY BUS WIDTH	STREAM PROCESSORS	CORE MEMORY SPEED (MHz)
Asus ENGT220/DI/1GD2	3,725	GT 220	10.1	DDR2	1 GB 128-bit	48	625 MHz 800 MHz
MSI N430GT-MD1GD3/OC/LP	4,150	GT 430	11	DDR3	1 GB 128-bit	96	785 MHz 1000 MHz
POV VGA-430-A1	4,250	GT 430	11	DDR3	1 GB 128-bit	96	700 MHz 1800 MHz
Sparkle GeForce GT220	4,300	GT 220	10.1	DDR3	1 GB 128-bit	48	625 MHz 700 MHz
Sparkle GeForce GT240	5,300	GT 240	10.1	DDR2	1 GB 128-bit	96	550 MHz 850 MHz
XFX GT 240 GT-240X-ZHFC	5,500	GT 240	10.1	GDDR5	1 GB 128-bit	96	550 MHz 900 MHz
Asus ENGTS450 DIRECTCU/DI/1GD5	6,700	GTS 450	11	GDDR5	1024 MB 128-bit	192	850 MHz 900 MHz
Zotac GeForce GTX 460	9,325	GTX 460	11	GDDR5	768 MB 192-bit	336	375 MHz 900 MHz
Palit GeForce GTX 460 Smart	10,025	GTX 460	11	GDDR5	1 GB 256-bit	288	650 MHz 850 MHz
Zotac GTX 550 Ti Amp!	10,150	GTX 550 Ti	11	GDDR5	1 GB 192-bit	192	900 MHz 1025 MHz
POV VGA-460-A2	10,625	GTX 460	11	GDDR5	1 GB 256-bit	336	675 MHz 900 MHz
MSI N460GTX Cyclone 1GD5/OC	10,800	GTX 460	11	GDDR5	1 GB 256-bit	336	725 MHz 900 MHz
Palit GeForce GTX 560 Ti Sonic	14,175	GTX 560 Ti	11	GDDR5	1 GB 256-bit	384	882 MHz 1200 MHz
MSI N560GTX-Ti Twin Frozr II	15,600	GTX 560 Ti	11	GDDR5	1024 MB 256-bit	384	822 MHz 1000 MHz
Asus ENGTX560 Ti DCII/2DI/1GD5	15,650	GTX 560 Ti	11	GDDR5	1024 MB 256-bit	384	830 MHz 1000 MHz
Sparkle GeForce GTX470	19,600	GTX 470	11	GDDR5	1280 MB 320-bit	448	607 MHz 837 MHz
Zotac GeForce GTX 570	20,275	GTX 570	11	GDDR5	1280 MB 320-bit	480	732 MHz 950 MHz
Palit GeForce GTX 570 Sonic Platinum	20,800	GTX 570	11	GDDR5	1280 MB 320 bit	480	800 MHz 1000 MHz
MSI N570GTX M2D12D5	22,000	GTX 570	11	GDDR5	1280 MB 320-bit	512	732 MHz 950 MHz
Zotac GeForce GTX 580	29,425	GTX 580	11	GDDR5	1.5 GB 384-bit	512	772 MHz 1002 MHz
Asus ENGTX580/2DI/1536MD5	30,275	GTX 580	11	GDDR5	1.5 GB 384-bit	512	782 MHz 1002 MHz

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EXTERNAL DRIVE



NAME	PRICE(Rs)	CAPACITY	INTERFACE	FORM FACTOR
Buffalo HD-PETU2 HD-PET320U2/L	2,550	320 GB	USB 2.0	2.5-inch
Western Digital Elements	2,575	320 GB	USB 2.0	2.5-inch
Seagate FreeAgent GoFlex STAA320301	2,825	320 GB	USB 2.0	2.5-inch
Buffalo HD-PVU2 HD-PV500U2/BK	3,000	500 GB	USB 2.0	2.5-inch
HitachiX Mobile HDD-X500	3,150	500 GB	USB 2.0	2.5-inch
Seagate FreeAgent GoFlex STAA500302	3,450	500 GB	USB 2.0	2.5-inch
Toshiba Canvio USB 3.0	3,475	500 GB	USB 3.0	2.5-inch
Transcend StoreJet 25M	3,800	500 GB	USB 2.0	2.5-inch
Western Digital My Passport Elite	3,850	500 GB	USB 2.0	2.5-inch
Verbatim 47512	4,450	1 TB	USB 2.0	2.5-inch
Seagate FreeAgent GoFlex STAA1000301	5,000	1 TB	USB 2.0	3.5-inch
Western Digital My Book Elite	5,200	1 TB	USB 2.0	2.5-inch
Hitachi XL Desk OS02485	6,150	2 TB	USB 2.0	3.5-inch
Western Digital My Book Elite	7,600	2 TB	USB 2.0	3.5-inch

USB FLASH DRIVE



NAME	CAPACITY	PRICE (Rs)
ADATA AC906-4G-RBK	4 GB	375
iball Ultra Strong	4 GB	425
Transcend JetFlash V70	4 GB	525
Corsair CMFUSBMINI	8 GB	950
Sandisk Ultra Backup	8 GB	1,075
Corsair CMFUSB2.0	16 GB	1,600
Touchmate TM-USB8GBPB	8 GB	2,200
Transcend JetFlash 500	32 GB	2,400
Sandisk Ultra Backup	64 GB	5,650
Mushkin Enhanced MKNUFDMH32GB	32 GB	6,500

CAMCORDERS



NAME	PRICE (Rs)	RESOLUTION	OPTICAL ZOOM
Samsung K44	15,532	720 x 480	52x
Sony Handycam DCR-SX63E	17,408	720 x 480	60x
Sony Handycam DCR-SR68E	17,750	720 x 480	60x
Sony Handycam DCR-SR88E	22,050	720 x 480	60x
Canon Legria HF R17	30,850	1920 x 1080	20x
Canon Legria HF R18	40,000	1920 x 1080	20x
Canon Legria HF M300	41,900	1920 x 1080	15x
Sony Handycam XR 550	46,550	1920 x 1080	10x
Canon Legria HF M31	50,800	1920 x 1080	15x
Canon Legria HF S200	58,100	1920 x 1080	10x

PROJECTORS



NAME	PRICE (Rs)	TYPE	BRIGHTNESS	NATIVE RESOLUTION	CONTRAST RATIO
Viewsonic PJD5152	31,325	DLP	2600 Lumens	800 x 600	3000:1
LG BS275	31,600	DLP	2700 Lumens	800 x 600	2200:1
Sony VPL-EX100 Projector	35,100	LCD	2300 Lumens	1024 x 768	2200:1
Mitsubishi EX200U	35,475	DLP	2300 Lumens	1024 x 768	1250:1
LG HS201 G	41,900	DLP	2000 Lumens	800 x 600	2000:1
Viewsonic PJD5352	44,550	DLP	2600 Lumens	1024 x 768	2600:1
Sony VPL-EX120 Projector	47,900	LCD	2600 Lumens	1024 x 768	2500:1
Viewsonic PJD6531W	52,275	DLP	3300 Lumens	1280 x 800	2800:1
Mitsubishi HC4000	82,975	DLP	1300 Lumens	1920 x 1080	3600:1
Mitsubishi XD600U	85,225	DLP	4500 Lumens	1024 x 768	2000:1

NOTE: Street prices (incl. VAT) as on 10 July 2011.



LAPTOPS



NAME	PRICE (Rs)	WEIGHT	PROCESSOR	MEMORY	CHIPSET	DISPLAY	HDD	OPTICAL DRIVE	OS
Toshiba Netbook NB250-A1110	15,500	1.18 Kg	Intel Atom	1.66 GHz	1 GB	10.1-in	250 GB	No	Win 7 Starter
iball Lilbook Lilbook-1026	16,100	1.22 Kg	Intel ATOM	1.6 GHz	1 GB	10.1-in	250 GB	No	DOS
Lenovo S-Series S10-3C 59-051325	16,850	1.50 Kg	Intel Atom	1.66 GHz	1 GB	10.1-in	250 GB	No	Win 7 Starter
iball Lilbook Lilbook-1044	17,500	1.22 Kg	Intel ATOM	1.6 GHz	2 GB	10.1-in	500 GB	No	Linux
HP Mini 210-1085tu	18,000	1.22 Kg	Intel Atom	1.66 GHz	1 GB	10.1-in	160 GB	No	Win 7 Starter
Dell Inspiron Mini 10	18,450	1.37 Kg	Intel Atom	1.66 GHz	1 GB	10.0-in	250 GB	No	Win 7 Starter
Asus Eee PC 1215T-BLK005W	19,900	1.45 Kg	AMD Athlon II	1.7 GHz	2 GB	12.0-in	320 GB	No	DOS
Asus 1215P-BLK019S	20,425	1.45 Kg	Intel Dual Core	1.50 GHz	2 GB	12.0-in	320 GB	No	Win 7 Starter
Lenovo S-Series S10-3s 59-043055	21,000	1.50 Kg	Intel Atom	1.83 GHz	2 GB	10.1-in	250 GB	No	Win 7 Starter
HP Presario CQ42-372TU	21,400	2.20 Kg	Intel Pentium	2.0 GHz	1 GB	14.0-in	320 GB	DVD+RW	DOS
HP Mini 210-1095TU	22,300	1.22 Kg	Intel Atom	1.66 GHz	2 GB	10.1-in	320 GB	No	Win 7 Starter
Asus Eee PC PC 1201T	22,525	1.50 Kg	AMD Athlon Neo	1.6 GHz	2 GB	12.1-in	320 GB	No	Win 7 Starter
Acer Acer Aspire 4736z	24,700	2.30 Kg	Intel Dual Core	2.3 GHz	3 GB	14.0-in	320 GB	DVD+RW	Linux
HP Compaq Presario CQ40-748TU	25,300	2.36 Kg	Intel Pentium	2.2 GHz	1 GB	14.1-in	160 GB	DVD+RW	DOS
Sony Vaio VPCYB15AG	26,497	1.46 Kg	AMD Dual Core	1.60 GHz	2 GB	11.6-in	320 GB	No	Win 7 Starter
Acer Acer Aspire AS5742	26,650	2.60 Kg	Intel Core i3	2.53 GHz	3 GB	15.6-in	500 GB	DVD-RW	Linux
Dell Vostro 1015	27,000	2.30 Kg	Intel Core 2 Duo	2.20 GHz	2 GB	15.6-in	320 GB	DVD+RW	Linux
HP Compaq Presario CQ42-355TU	27,000	2.20 Kg	Intel Pentium	2.0 GHz	2 GB	14.0-in	320 GB	DVD+RW	DOS
Toshiba Satellite C660-I5013	27,200	2.40 Kg	Intel Core i3	2.53 GHz	2 GB	15.6-in	320 GB	DVD+RW	DOS
Asus K42 Series K42DR-VX059D	27,225	2.20 Kg	AMD Danube	2.1 GHz	2 GB	14-in	320 GB	DVD+RW	DOS
Toshiba Satellite C650-I5011	27,700	2.60 Kg	Intel Core i3	2.26 GHz	3 GB	15.6-in	320 GB	DVD+RW	DOS
Acer Acer Aspire AS 5742z	27,750	2.60 Kg	Intel Pentium Dual Core	2 GHz	2 GB	15.6-in	500 GB	DVD-RW	Win 7 HB
Toshiba Satellite C650-P5210	28,000	2.60 Kg	Intel Pentium	2.2 GHz	3 GB	15.6-in	320 GB	DVD+RW	Win 7 HB
Asus A42 Series A42 SeriesF-VX130D	28,550	2.00 Kg	Intel Core i3	2.4 GHz	2 GB	14.0-in	500 GB	DVD+RW	DOS
Dell Vostro 1014	29,000	2.20 Kg	Intel Core 2 Duo	2.1 GHz	4 GB	14.1 in.	320 GB	DVD+RW	Linux
MSI Classic CR420	29,225	2.00 Kg	Intel Core i5	2.13 GHz	4 GB	14.0-in	250 GB	DVD+RW	Win 7 HP
Acer Acer Aspire AS 5745	29,750	2.60 Kg	Intel Core i5	2.26 GHz	2 GB	15.6-in	500 GB	DVD+RW	Linux
MSI Classic CR620	29,850	2.48 Kg	Intel Core i3	2.4 GHz	2 GB	15.6-in	320 GB	DVD+RW	Win 7 HB
MSI F Series FR600	30,375	2.30 Kg	Intel Core i3	2.4 GHz	3 GB	15.6-in	320 GB	DVD+RW	Win 7 HB
Lenovo G Series 59-052056	31,500	2.60 Kg	Intel Core i3	2.10 GHz	3 GB	15.6-in	320 GB	DVD+RW	DOS
Toshiba Satellite C660-P5210	31,500	2.40 Kg	Intel Pentium Dual Core	2.13 GHz	2 GB	15.6-in	320 GB	DVD+RW	Win 7 HB
Sony Vaio Y Series VPCYA17GG/B	32,850	1.46 Kg	Intel Core i3	1.33 GHz	2 GB	11.6-in	320 GB	No	Win 7 Pro
Fujitsu Lifebook A Series AH530	33,200	2.75 Kg	Intel Core i3	2.26 GHz	4 GB	15.6-in	320 GB	DVD+RW	Win 7 HP
Lenovo Z-Series Z-560 59-045432	34,100	2.90 Kg	Intel Core i3	2.4 GHz	2 GB	15.6-in	500 GB	DVD+RW	Win 7 HB
Sony Vaio VPCEA42EG	34,225	2.35 Kg	Intel Core i3	2.53 GHz	2 GB	14-in	320 GB	DVD+RW	Win 7 HB

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LAPTOPS



NAME	PRICE (Rs)	WEIGHT	PROCESSOR	MEMORY	CHIPSET	DISPLAY	HDD	OPTICAL DRIVE	OS
HP Compaq Presario CQ42-273TU	34,700	2.20 Kg	Intel Core i3	2.26 GHz	3 GB	14.0-in	320 GB	DVD+RW	DOS
Sony Vaio VPCEB42EG	35,150	2.7 Kg	Intel Core i3	2.53 GHz	2 GB	15.5-in	320 GB	DVD+RW	Win 7 HB
HP Pavilion DV6-3004TU	35,200	3.00 Kg	Intel Core i3	2.26 GHz	2 GB	15.6-in	320 GB	DVD+RW	DOS
HP Pavilion XJ419PA	35,500	2.45 Kg	Intel Core i3	2.26 GHz	3 GB	15.6-in	320 GB	DVD+RW	DOS
HP Presario 621-DOS	35,590	2.50 Kg	Intel Core 2 Duo	2.10 GHz	2 GB	15.6-in	320 GB	DVD+RW	DOS
Acer Aspire AS 5742G	37,350	2.60 Kg	Intel Core i5	2.26 GHz	3 GB	15.6-in	500 GB	DVD+RW	Win 7 HP
HP Pavilion XV675PA	38,000	2.49 Kg	Intel Core i3	2.4 GHz	3 GB	15.6-in	320 GB	DVD+RW	Win 7 HB
Lenovo Z Series Z560 59-052666	38,000	2.60 Kg	Intel Core i5	2.53 GHz	3 GB	15.6-in	500 GB	DVD+RW	Win 7 HP
Dell Inspiron 15R	38,300	2.50 Kg	Intel Core i3	2.4 GHz	3 GB	15.6-in	320 GB	DVD+RW	Win 7 HB
Sony Vaio Y Series	38,800	1.46 Kg	Intel Core i3	1.33 GHz	2 GB	11.6-in	320 GB	No	Win 7 HP
Toshiba Satellite L640-X4310	39,800	2.26 Kg	Intel Core i5	2.66 GHz	3 GB	14.0-in	320 GB	DVD+RW	Win 7 HP
HP Compaq Presario G62-361TX	40,000	2.50 Kg	Intel Core i3	2.4 GHz	3 GB	15.6-in	320 GB	DVD+RW	Win 7 HB
Acer Aspire AS 5739G	40,150	2.80 Kg	Intel Core 2 Duo	2 GHz	4 GB	15.6-in	320 GB	DVD+RW	Win 7 HB
Dell Inspiron 15R	40,200	2.60 Kg	Intel Core i5	1.6 GHz	3 GB	15.6-in	320 GB	DVD+RW	Win 7 HB
HP Pavilion DV6-3009tu	40,400	3.00 Kg	Intel Core i3	2.40 GHz	2 GB	15.6-in	500 GB	DVD+RW	Win 7 HP
Fujitsu Lifebook A Series A530	40,800	2.75 Kg	Intel Core i5	2.4 GHz	2 GB	15.6-in	320 GB	DVD+RW	Win 7 Pro
Asus K52 K52JR	41,700	2.10 Kg	Intel Core i5	2.53 GHz	4 GB	15.6-in	500 GB	DVD+RW	Win 7 HP
Acer Aspire AS 4820TG	42,800	2.11 Kg	Intel Core i5	2.60 GHz	3 GB	14-in	500 GB	DVD+RW	Win 7 HP
HP Pavilion XG241PA	43,200	2.10 Kg	Intel Core i3	2.26 GHz	3 GB	13.3-in	320 GB	DVD+RW	Win 7 HP
Samsung N Series NP-R580-JT01	44,400	2.60 Kg	Intel Core i3	2.40 GHz	4 GB	15.6 in	500 GB	No	Win 7 HP
Sony Vaio VPCEA3BGN	44,550	2.40 Kg	Intel Core i3	2.40 GHz	2 GB	14.0-in	320 GB	DVD+RW	Win 7 Pro
MSI F Series FX400	45,375	2.20 Kg	Intel Core i5	2.6 GHz	4 GB	14-in	500 GB	DVD+RW	Win 7 HP
MSI F Series FX600	46,425	2.41 Kg	Intel Core i5	2.6 GHz	4 GB	15.6-in	500 GB	DVD+RW	Win 7 HP
HP Pavilion DV4-2112TU	47,050	2.20 Kg	Intel Core i5	2.26 GHz	3 GB	14.1-in	500 GB	DVD+RW	Win 7 HP
Asus B43 B43F-V0023V	49,250	2.48 Kg	Intel Core i5	2.53 GHz	4 GB	14.0-in	500 GB	DVD+RW	Win 7 HP
Dell XPS 15	50,200	2.96 Kg	intel Core i3	2.66 GHz	4 GB	15.6-in	500 GB	DVD+RW	Win 7 HP
Samsung N Series NP-SF510-S01IN	51,000	2.40 Kg	Intel Core i3	2.4 GHz	4 GB	15.6-in	500 GB	DVD+RW	Win 7 HP
Sony Vaio VPCEB3AGG	52,550	2.70 Kg	Intel Core i5	2.66 GHz	4 GB	15.5-in	320 GB	DVD+RW	Win 7 Pro
Asus U45 U45JC-WX016X	53,025	2.14 Kg	Intel Core i3	2.4 GHz	4 GB	14.0-in	320 GB	DVD+RW	Win 7 Pro
Lenovo Y Series Y560 59-055616	56,300	2.00 Kg	Intel Core i7	1.73 GHz	4 GB	15.6-in	500 GB	DVD+RW	Win 7 HP
HP Pavilion DV6-3052tx	59,400	3.00 Kg	Intel Core i7	1.60 GHz	4 GB	15.6-in	640 GB	DVD+RW	Win 7 HP
Asus N53 N53JQ-SZ103V	62,425	2.90 Kg	Intel Quad Core i7	1.73 GHz	4 GB	15.6-in	640 GB	DVD+RW	Win 7 HP
Dell Alienware M11x	68,896	2.00 Kg	Intel Core 2 Duo	1.3 GHz	4 GB	11.6-in	500 GB	DVD+RW	Win 7 HP
Toshiba Satellite A660-X5310	78,500	2.62 Kg	Intel Core i5	2.66 GHz	4 GB	15.6-in	500 GB	DVD+RW	Win 7 HP
Dell Alienware Alienware M15X	97,006	5.30 Kg	Intel Core i7	1.73 GHz	4 GB	15.6-in	500 GB	DVD+RW	Win 7 HP

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DIGITAL CAMERAS

NAME	PRICE (Rs)	RESOLUTION	OPTICAL ZOOM	WIDE ANGLE	APERTURE	LCD SIZE	SHUTTER SPEED
Nikon Coolpix L23	4,750	10 MP	5x	28 mm	F2.7 - F6.8	2.7-inch	NA
Fujifilm FinePix AV200	4,782	14 MP	3x	32 mm	F2.9 - F5.2	2.7-inch	8 - 1/1400 sec
Sony Cybershot DSC S3000	4,975	10.1 MP	4x	28 mm	F3.0 - F5.7	2.7-inch	2 - 1/2000 sec
Kodak Easyshare M532	5,550	14 MP	4x	28 mm	NA	2.7-inch	8 - 1/1600 sec
Olympus FE-4020	5,700	14 MP	4x	26 mm	F2.6 - F5.9	2.7-inch	1/2-1/2000 sec
Canon Digital IXUS 105 IS	6,750	12 MP	4x	28 mm	F2.8 - F5.9	2.7-inch	1 - 1/1500 sec
Canon Powershot A3100 IS	6,900	12 MP	4x	35 mm	F2.7 - F5.6	2.7-inch	1 - 1/1600 sec
Nikon Coolpix S3100	8,075	14 MP	5x	26 mm	F3.2 - F6.5	2.7-inch	4 - 1/2000 sec
Casio Exilim EX-Z90	8,800	12.1 MP	3x	35 mm	F3.1 - F5.9	2.7-inch	1/4 - 1/2000 sec
Fujifilm FinePix JZ300	9,500	12 MP	10x	28 mm	F3.3 - F5.6	2.7-inch	8 - 1/2000 sec
Kodak EasyShare M590	10,350	14 MP	5x	35 mm	NA	2.7-inch	1/2 - 1/1200 sec
Olympus SP-600 UZ	10,450	12 MP	15x	28 mm	F3.5 - F5.4	2.7-inch	1/2 - 1/2000 sec
Casio Exilim EX-Z550	10,550	14.1 MP	4x	26 mm	F2.6 - F5.9	2.7-inch	4 - 1/2000 sec
Sony Cybershot DSC-W570	10,875	16.2 MP	5x	28 mm	F2.6 - F6.3	2.7-inch	2 - 1/1600 sec
Fujifilm FinePix Z700 EXR	12,250	12 MP	5x	35 mm	F3.9 - F4.7	3.5-inch	4 - 1/1000 sec
Sony Cybershot DSC-T99	12,975	14.1 MP	4x	25 mm	F3.5 - F4.6	3.0-inch	2 - 1/1250 sec
Canon Digital IXUS 210 IS	13,375	14 MP	5x	24 mm	F2.8 - F5.9	3.5-inch	1 - 1/3000 sec
Sony Cybershot DSC-H70	13,925	16.2 MP	10x	25 mm	F3.5 - F5.5	3.0-inch	30 - 1/1600 sec
Nikon Coolpix S8000	14,475	14.2 MP	10x	35 mm	F3.5 - F7	3.0-inch	4 - 1/1000 sec
Sony Cybershot DSC-WX1	14,625	10 MP	5x	24 mm	F2.4 - F5.9	2.7-inch	2 - 1/6000 sec
Sony Cybershot DSC-TX9	14,765	12.2 MP	4x	25 mm	F3.5 - F4.6	3.5-inch	2 - 1/1600 sec
Nikon Coolpix S1100pj	16,375	14.1 MP	5x	28 mm	F3.9 - F5.8	3.0-inch	NA
Samsung EC-ST5500	16,551	14 MP	7x	31 mm	F3.3 - F5.5	3.7-inch	1/8-1/2000 sec
Samsung EC-WB650	16,652	12 MP	15x	24 mm	F3.2 - F5.8	3.0-inch	1-1/2000 sec
Casio Exilim EX-H10	17,300	12.1 MP	10x	24 mm	F3.2 - F5.7	3.0-inch	4 - 1/2000 sec
Olympus MJU-Tough 8010	17,925	14 MP	5x	28 mm	F3.9 - F5.9	2.7-inch	1/4 - 1/2000 sec
Olympus SP-800 UZ	17,925	14 MP	30x	28 mm	F2.8 - F5.6	3.0-inch	1/4 - 1/2000 sec
Canon Powershot SX210 IS	17,950	14.1 MP	14x	28 mm	F3.1 - F5.9	3.0-inch	1 - 1/3200 sec
Canon IXUS 300 HS	23,300	10 MP	3.8x	28 mm	F2.0 - F5.3	3.0-inch	15 - 1/2500 sec
Canon Digital IXUS 1000 HS	24,175	10 MP	10x	36 mm	F2.8 - F5.6	3.0-inch	1 - 1/2000 sec
Canon Powershot S90	25,000	10 MP	4x	24 mm	F2.0 - F4.9	3.0-inch	15 - 1/1600 sec
Canon Powershot SX30 IS	27,300	14 MP	35x	24 mm	F2.7 - F5.8	2.7-inch	15 - 1/3200 sec
Canon Powershot G12	30,100	10 MP	5x	28 mm	F2.8 - F4.5	2.8-inch	15 - 1/4000 sec

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MONITORS



NAME	PRICE (Rs)	SCREEN SIZE	WIDESCREEN	NATIVE RESOLUTION	RESPONSE TIME	D-SUB	DVI	HDMI
BenQ G610HDAL	4,300	15.6-inch	✓	1366 x 768	8 ms	✓	✗	✗
Asus VH162DE	4,500	15.6-inch	✓	1360 x 768	8 ms	✓	✗	✗
LG W1643C	4,550	15-inch	✓	1360 x 768	8 ms	✓	✗	✗
BenQ G925HDA	5,300	18.5-inch	✗	1366 x 768	5 ms	✓	✗	✗
AOC F19S	5,500	18.5-inch	✓	1366 x 768	5 ms	✓	✓	✗
Acer S191HQL	5,650	18.5-inch	✓	1366 x 768	5 ms	✓	✓	✗
Philips 191EL1SB	5,825	19-inch	✓	1366 x 768	5 ms	✗	✓	✗
Dell IN2020M	6,700	20-inch	✓	1600 x 900	5 ms	✓	✓	✗
Samsung SyncMaster 2030N	6,700	20-inch	✓	1600 x 900	5 ms	✓	✓	✗
AOC e2043Fs LED	6,750	20-inch	✓	1366 x 768	5 ms	✓	✗	✗
Samsung SyncMaster B1931N	6,900	18.5-inch	✓	1366 x 768	5 ms	✓	✗	✗
Samsung SyncMaster B2230N	8,350	21.5-inch	✓	1920 x 1080	5 ms	✓	✗	✗
Asus MS202N	9,075	20-inch	✓	1600 x 900	5 ms	✓	✓	✗
ViewSonic VX2250wm	9,125	22-inch	✓	1920 x 1080	5 ms	✓	✓	✗
LG W2343T	9,800	23-inch	✓	1920 x 1080	5ms	✓	✓	✗
Philips 241E1SB	11,100	24-inch	✓	1920 x 1080	5 ms	✗	✓	✗
BenQ G2420HD	12,200	24-inch	✓	1920 x 1080	5 ms	✓	✓	✓
ViewSonic VX2439wm	13,295	24-inch	✓	1920 x 1080	2 ms	✓	✓	✓
BenQ LED V2200 Eco	13,400	21.5-inch	✓	1920 x 1080	5 ms	✓	✓	✓
Acer B243H	14,650	24-inch	✓	1920 x 1080	2 ms	✓	✓	✗
ViewSonic VX2739wm	23,150	27-inch	✓	1920 x 1080	1 ms	✓	✓	✓
BenQ M2700	23,700	27-inch	✓	1920 x 1080	2 ms	✓	✓	✓
Asus VK266H-BK	25,475	25.5-inch	✓	1920 x 1200	2 ms	✓	✓	✓
BenQ XL2410T LED	28,700	23.6-inch	✓	1920 x 1080	2 ms	✓	✓	✓
Dell U2711	44,300	27-inch	✓	2560 x 1440	6 ms	✗	✓	✓

CABINETS



NAME	PRICE (Rs)	TYPE	POWER SUPPLY	5.25-INCH BAYS	3.5-INCH BAYS	NUMBER OF FANS
iBall NetTop 009	1,425	ATX	✓	1	4	1
iBall Cabinet 6363	1,550	ATX	✓	3	6	1
Circle Cosmo	1,700	ATX	✓	3	6	1
Circle Royal	2,100	ATX	✓	1	5	1
Gigabyte Setto 1000	2,100	ATX	✗	4	6	2
Cooler Master Elite 335	2,350	ATX	✗	4	1	2
Thermaltake Matrix VD2000BNS	2,775	ATX	✗	4	4	1
Cooler Master Gladiator 600	3,850	ATX	✗	5	5	2
Cooler Master CM 690 II Plus	5,500	ATX	✗	4	6	3
Antec Six Hundred	5,850	ATX	✗	3	6	2
Thermaltake M9D	6,250	ATX	✗	6	3	2
LanCool PC-K62	6,500	ATX	✗	5	4	2
Cooler Master HAF 932	10,100	ATX	✗	6	5	4
Cooler Master Cosmos S	15,800	ATX	✗	7	4	5
Gigabyte Poseidon 310	62,250	ATX	✗	5	3	2

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A LOT OF PEOPLE PUT THEMSELVES OUT THERE FOR STRANGERS, BUT THEY WERE EASILY DROWNED OUT BY PEOPLE REPEATEDLY PROPAGATING OLD NEWS.

JAMSHED AVARI, DEPUTY EDITOR

HASHTAG ACTIVISM

I was at my desk when the first rumors of a bomb blast at Dadar started circulating. It had been a perfectly normal day until people's phones started ringing and messages started pouring in—our office was, after all, just about half a kilometer from one of the supposed blast sites. Mobile networks hadn't jammed yet, and we hadn't heard anything in our airconditioned building, so no one really knew whether this was just a hoax or not.

As the calls started becoming more and more frantic, I turned to the Web. Google News had nothing, and most Indian news websites were only concerned with the day's political and celebrity shenanigans. There wasn't a peep about any violence. A few minutes in, I realized how old-fashioned I was being! I was obviously looking in the wrong places—a quick Twitter search immediately threw up hundreds of results. However, it was only the same panic that was spreading via SMS. There had been three bomb blasts—no four—no five! Several in South Mumbai: Colaba, Churchgate and Charni Road stood out as examples of crowded areas (none of which had been affected, as it turned out). Another one at Zaveri Bazaar, one being defused in an unknown location, and six more planted across the city and waiting to explode! Furious retweets spread anything and everything—why people thought they needed to drown the timeline with the same message over and over, I don't know. Anyone who tried searching for #dadar, #mumbaiblasts or anything similar must have seen the same flood of retweets. The only common thread was a complete lack of evidence—no one seemed to know where messages were coming from, no one prioritized messages that indicated the senders were anywhere near the scene or those that cited any actual credible source.

Finally one solitary link to a news website appeared, but my relief was cut short. The two sentences posted on the website of one of India's leading 24-hour channels began with "Bomb blasts are reported to have occurred...". That was the quality of journalism; nearly an hour after the bombs actually went off, the website was also probably only reacting to Twitter! With seemingly no reporters actually on the ground, which "reports" were they citing? Where were the primary sources? When did it become okay for news outlets to run with this kind of story? They only spread panic to a wider audience.

At last, it was established that something horrific really had occurred. And it was then that I began to see the positive side of Twitter activism. People suddenly started organizing themselves: Dadar locals were posting their phone numbers for stranded strangers to call, others were offering their houses and hot meals. People retweeted emergency service numbers and hashtags emerged for those offering help and for those who needed it. Pleas for information about missing people were sent far and wide, and at least one quick-thinking individual created a Google spreadsheet compiling the offers of help and important contact numbers. Later at night, campaigns for blood donation and hospital volunteers also started circulating.

I acknowledge the obvious domination of new instant media over traditional journalism when it comes to breaking news, but events proved that we still need to evolve a code of conduct when dealing with such situations—remember, verifiable primary sources can never be replaced, and panic-driven retweets only drown out useful news. 🇮🇳

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